

NEW!
Education Column

October 1990 Vol 7 no 10 \$2
~~\$3.50*~~

The Australian COMMODORE and AMIGA REVIEW

3D Text Animator
vs
Credit Text Scroller

Deeper into BBSing

Using Discovery

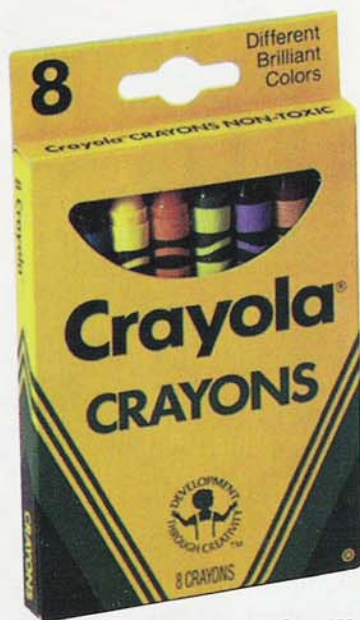
C64 / GEOS column

Game reviews:
Chrono quest
Imperium
Centauri Alliance



Kawai Funlab
Midi music goes mass market

A Graphic Demonstration



Deluxe Paint III
has 32 colours* and costs \$199.00



Digi-Paint 3
gives you 4096 colours and costs \$119.00

Get the picture?

*In some modes an additional 32 half-intensity shades are available.

Digi-Paint 3 is a trademark of NewTek, Inc. CRAYOLA, chevron and serpentine designs are registered trademarks of Binney & Smith Inc., used with permission. DeluxePaint III is a trademark of Electronic Arts.

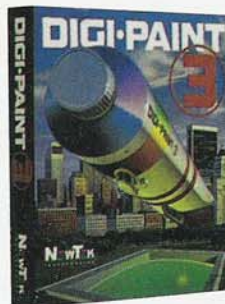
Which one of the artistic tools pictured here would a child choose? The answer is obvious, the more colors the better. The choice is just as easy when it comes to Amiga paint programs. Digi-Paint 3 works in the Amiga's powerful Hold-And-Modify (HAM) mode which allows you to paint using all 4096 colors simultaneously. By comparison, Deluxe Paint III (by Electronic Arts) operates in less sophisticated modes, restricting you to a maximum of only 32 colors*. What does this mean to your Amiga art? Simply put, the program with more colors makes the better pictures. But that's just one of the reasons Digi-Paint 3 is the ultimate paint program.

Other advanced features found in Digi-Paint 3:

- 14 drawing modes including colorizing, range painting, and texture mapping

- Powerful tools including: magnify, rotate, cut-and-paste, and variable transparency
- Anti-aliased fonts give sharp edges and a crisp television look
- Paint on canvases up to 1024 x 1024 with auto-scrolling
- Supports *all* Amiga display modes and resolutions
- Compatible with the Amiga 3000 and WorkBench 2.0

AmigaWorld magazine recently compared the leading paint programs in a head-to-head showdown. A clear winner emerged: **"Digi-Paint 3 is the one to beat for speed, versatility and professional applications."** After six pages of detailed evaluations they concluded with, **"If you are really serious about owning only one paint program, we would have to recommend Digi-Paint 3."**



NewTek
INCORPORATED

Distributed and supported in Australia
by:
COMPUTERMATE
products (australia) pty. ltd.
P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080
Fax: (02) 457 8739 Phone: (02) 457 8388
Technical Support Number: 457 8548

The Australian COMMODORE and AMIGA REVIEW

Editorial	<i>A meagre editor speaks!</i>	2
Ram Rumbles	<i>Commodore's new CDTV</i>	4
Notepad	<i>What's new?</i>	6

Amiga

Kawai Funlab	<i>D. Rossy</i>	<i>Making Midi Music</i>	14
Video titling	<i>G. Kimpton</i>	<i>Where do we go?</i>	19
CLI - part 5	<i>A. Leniart</i>	<i>AmigaDOS tutorial</i>	43

Education

Education column	<i>A. Glover</i>	<i>new column</i>	36
Kids collection	<i>A. Glover</i>	<i>a 3-Game set for Kids</i>	42

C 64 / 128

The 64 Column	<i>O. James</i>	<i>reprogramming software</i>	48
Sound & Graphics	<i>G. Perry</i>	<i>hone your skills</i>	58
The Geos column	<i>B. Lyon</i>	<i>file systems are go!</i>	54

Communications

Discovery	<i>Blatz</i>	<i>BBS heaven ?</i>	19
BBS etiquette	<i>M. North</i>	<i>common sense for COMMS</i>	22
Hayes commands	<i>T. Strachan</i>	<i>AT commands for modems</i>	24

Entertainment

That's Entertainment	<i>P. Campbell</i>	<i>Hints & Tips, Hall of Fame</i>	65
Game Reviews		<i>Imperium, Eliminator, Flood, Resolution 101, Centauri Alliance, Bridge Player 2000, Fire&Brimstone</i>	68
Quick Shots		<i>A first glance at new games</i>	70
Adventurer's Realm	<i>M. Spiteri</i>	<i>Help for problems, clever contacts, The Dungeon</i>	77

Advertisers Index			80
-------------------	--	--	----



Australian Commodore Review: 21 Darley Road Randwick,
NSW 2031 Phone: (02) 398 5111
Published by: Saturday Magazine Pty Ltd.

Editor: Andrew Farrell
Entertainment Section Editor: Phil Campbell
Advertising: Ken Longshaw (02) 398 5111
or (02) 817 2509
Brenda Powell
Production: Andrew Dunstall
Design & Layout: Andrew Dunstall
Subscriptions & back issues: Andrew Dunstall (02) 398 5111
Distribution: NETWORK Distribution
Printed by: Ian Liddell Pty Ltd

**VOL. 7
NO. 10
OCTOBER
1990**

BREAKING THE PRICE BARRIER

AMIGA 1 MEG memory boards
dramatically reduced

\$299

Two boards in One!

FREE Bonus offer, XEL hardDrive interface
included, save \$200 off
the price of a complete hardDrive.

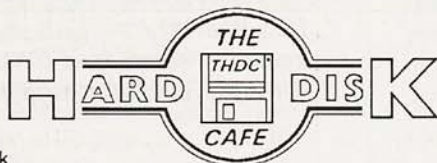
**Fully
populated**
with 1MB of
AUTO-
CONFIGured
FAST RAM for
your 500 or
1000
computer.

Hard Drive Options

* 30 Meg	\$899
* 40 Meg	\$1099
* 60 Meg	\$1299
* 105 Meg	\$1799
* Hard drive Kits	\$195

**XEL Pty
Ltd**

G.P.O. BOX 121 Adelaide. 5001
Phone 08-2317396 or 018-824648 anytime.



Shop 9 Ak
PO Box 879
Mona Vale NSW 2103

Phone (02) 979 5833
Fax (02) 979 6629

AMIGA 500 - AMIGA 2000 COMMODORE COLT - PC 10 SOFTWARE - HARDWARE COMPUTER ACCESSORIES

AMIGA VIDEO TUTORIAL FOR BEGINNERS
FEEL AT HOME WITH YOUR NEW AMIGA

COST \$29.95

HINTS & TIPS

LEARN HOW TO BACK-UP
COPY - FORMAT DISKS - SAVE - LOAD

MAIL ORDER FORM
BANKCARD/MASTERCARD/CHEQUE/POSTALORDER

NAME:
ADDRESS:
PHONE: PC:
PAY BY CHEQUE: B/C: M/C:
P/ORDER:
CARD NO:
EXPIRY DATE:
SIGNATURE: DATE:

Editorial

Many readers have complained about our lack of C64 coverage. Indeed, the number of product reviews has decreased, reflecting the absolute drought of new programs released for this affordable machine. Even Berkeley Software have announced that some GEOS lines are now discontinued.



INFO magazine, a popular C64 magazine in the USA, has dropped the C64 all together and moved 100% Amiga. They cited the lack of new developments and the general trend toward the Amiga as the primary reasons.

At the *Australian Commodore and Amiga Review*, we will continue to support C64ers for as long as possible. Three regular columns covering GEOS, Graphics and Sound and the C64 in general are now running. However, we are still looking for technical articles, how-to stories and the like on the C64 - especially as a productivity machine (see how to contribute elsewhere in this issue). There are many fine packages out there which have proved to be very useful for all manner of work. So to all those who have written in recent weeks, yes, the C64 coverage has diminished - we can only write about what there is to write about!

Commodore UK are reported to be launching a revamped C64 in cooperation with a number of game companies committed to releasing a large number of game cartridges. The price point should place the machine in competition with other game consoles. No doubt Commodore Australia will be giving a similar re-launch serious thought - after all, Commodore's roots have always been in the entry level computing market.

In this month's magazine we take a look at telecomputing - this time we take a more hands on approach with snapshots from real BBS systems, guides to using Discovery and more serious information. First time users who find this all a bit heavy going should look back to our Annuals for the introductory guide to communications. An updated guide will be appearing in the 1991 *Amiga Annual* due out in early December.

In this issue we welcome Anne Glover with a new column on education. Correspondence to Anne from parents and students regarding educational issues is welcome. Please post them in care of the magazine. Anne will continue to review new education products each issue and discuss issues facing parents and teachers concerning today's educational needs.

Also in this issue you will find a Classified advertisement form. A classified ad section will be appearing in the coming issues so if you have something to buy, sell, swap or give away (fat chance) snip out the form and send it in. Alternatively, ring Andrew Dunstall on (02) 398 5111 to place your ad!

Andrew Farrell

GVP Announces a Technological Breakthrough...

SERIES II™ THE NEXT GENERATION

in SCSI and RAM Controllers for the A2000®

IMPACT
Series II

GVP's New SERIES II A2000 SCSI and RAM Expansion Controllers provide the ultimate hard disk and RAM expansion solution for the A2000. Choose from two new models:

The Series II A2000 SCSI "Hard-Disk + RAM-Card"

- State-of-the-Art integration packs a high performance SCSI controller, 8MB FAST RAM Expansion and a 3.5" hard disk drive INTO A SINGLE A2000 EXPANSION SLOT!! Saves BOTH a valuable expansion slot and a peripheral bay!
- Incredible SCSI hard disk performance achieved through GVP's innovative new custom chip design, which provides DMA performance and unique direct dual port memory access to FAST RAM, eliminating typical DMA side effects under heavy graphics load.
- Easy-to-install SIMM memory modules allow flexible memory configurations from ZERO through 8MB. Supports 6MB FAST RAM configuration for BridgeBoard users.
- NEW **FAAASTROM™** SCSI Driver offers optimum performance and includes such features as:
 - ✓ Supports virtually any SCSI device including, CD-ROMs, Tape Drives, IOMEGA Bernoulli drives, etc.
 - ✓ Fully implements SCSI Disconnect/Reconnect protocol, allowing overlapping SCSI commands to be executed.

- ✓ Fully implements Commodore's Rigid Disk Block (RDB) standard as well as the new DIRECT SCSI interface standard.
- ✓ Removable media drive support. Automatically senses cartridge changes and informs AmigaDOS, ensuring safe and reliable use of removable media SCSI drives.
- ✓ Allows Direct AUTOBOOT from Fast File System Partition.
- New **INTUITION COMPATIBLE SCSI** installation and "tuning" utility included. Major features include:
 - ✓ ICON and gadget based INTUITION interface.
 - ✓ Bad Block Remapping of hard drives.
 - ✓ Auto or manual hard drive partitioning and AmigaDOS formatting.
 - ✓ Read and modify existing RDB parameters on hard disk.
 - ✓ Simplest and Easiest SCSI installation in the industry.
- **Low parts count (through VLSI Integration) EQUALS:** lower power, higher reliability, longer life and ultimate PRICE/PERFORMANCE! See TRADE-UP offer.

The Series II A2000 SCSI "Hard-Disk-Card"

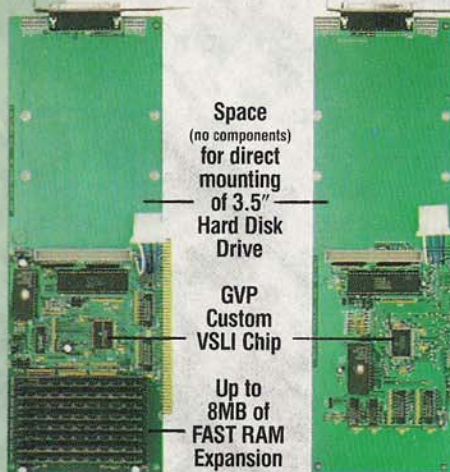
- Same as above but without the 8MB FAST RAM capability.
- Specially designed for those users who don't need memory expansion but still need maximum hard disk performance at a budget price.
- **UNBEATABLE VALUE.** See \$199 trade-up offer!

GVP's New **FAAASTROM** SCSI driver and installation software is also available as an upgrade kit for GVP's original IMPACT SCSI controllers, for ONLY \$89.95. Offers major performance increase over previous GVP AUTOBOOT EPROMs.

New Series II 48MB Removable media hard disk drive. GVP now also offers the NEXT GENERATION removable media hard disk drive which offers increased capacity (48MB formatted) and major technological advances in cartridge air flow filtering design and robustness. Call for details.

Hard-Disk+RAM-Card

Hard-Disk-Card



SCSI TIMES

The ULTIMATE Trade-Up Offer???

GVP today introduced its new Series II product line and announced a bold new trade-up program, which is certain to further bolster GVP's dominant market share in the Amiga hard drive market.

Details of GVP's new TRADE-UP program are as follows:

- For \$199 plus \$6 for shipping (Aus only) end-users can trade-up to the new GVP Series II SCSI "Hard-Disk-Card" (without drive) by simply sending in their present SCSI controller (from ANY manufacturer) together with a money order or certified check, payable directly to GVP.
- All trade-in controllers must be sent to GVP FREIGHT PREPAID.
- Owners of any GVP or Commodore SCSI controllers, are eligible for an additional \$10 rebate, if they trade-in a FULLY FUNCTIONAL and working controller. These owners need to submit a certified cheque/money order for \$195 only.
- For an additional \$89, existing controllers can be traded-up to the new Series II "Hard-Disk + RAM-Card," which includes the 8MB FAST RAM expansion capability, populated with ZERO RAM.

"Let's Standardize"

GVP

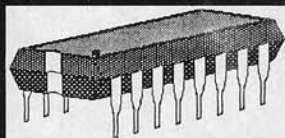
Series II, FAAASTROM and GVP are trademarks of Great Valley Products, Inc. Amiga and A2000 are registered trademarks of Commodore-Amiga, Inc.

Distributed in Australia by

Power Peripherals Pty. Ltd. Expansion Solutions

P.O. BOX 555, LAVERTON, MELBOURNE, VIC 3028 AUSTRALIA
PHONE: (03) 369 7020 FAX: (03) 369 7020

Ram Rumbles



Commodore's New Baby! - The CDTV shown here with optional extras: infra-red remote controller, keyboard and mouse, joystick controller and disk drive. Yours for around \$1000US.

Commodore's new Baby! - CDTV

Rumours abound concerning Commodore's new CDTV, a marriage of computer, CD-ROM and television. And yes, the Baby! as it has been known in Commodore's development team offices, is not far off.

In essence, CDTV is a compact disc player, which although able to play the usual music discs, will also work as a CD-ROM. Inside the player, Commodore have cleverly crammed in an Amiga 500.

The Amiga can use the CD as a retrieval device, reading in programs, graphics and music - a true multimedia hardware package.

We should see instructional programs on cooking, sports, foreign languages and special learning for children, sophisticated electronic games, adventures and simulations never before thought of. The CD as a storage device opens some very exciting possibilities.

The CDTV can be expanded with a range of devices, many of them infra-red, including a keyboard and mouse. The unit will come standard with several enhancements above the usual Amiga 500 specifications. An additional 2K of non-volatile RAM will keep information such as preference settings, the system date and time safe when the unit is not switched on.

On the front of the unit is a port for a 64K personal RAM card. Each user will have one. It will contain high scores, saved games, personal information, financial data, or whatever else you happen to be using your CDTV for.

Hopefully, CDTV will arrive late this year, complete with dozens of titles, lots of rave from the press and a lot of people wondering what anyone would want one for. No doubt, before too long, CDTV will be as popular as the common CD, and as used as the fax machine. Price should be around US\$1000. ☐

Update

While MAX is away, the Pactronics office never sleeps. How could we when we have some HOT new products. WEB OF TERROR with spectacular graphics, is enough to keep anyone glued to their Amiga for weeks. If it wasn't for UNIVERSE 3. As commander of a space ship, you must make a return trip to Earth to negotiate for fresh supplies in return for fuel. However, a traitor on board is determined to destroy any chances of re-establishing peaceful relations with Earth. LOOK OUT!

You will be pleased to know that our stocks of Cameron Hand Scanners, both black and white and colour, have now been replenished. If you have been eagerly waiting to see these scanners in action, call us NOW.

For the Commodore heads who may think we have neglected them, we would never do such a thing. If you have been looking for a sophisticated word processor that is user friendly - WORDPRO is for you. WORDPRO also comes with TURBO LOAD and SAVE and integrated spell checker. Don't forget that MINI OFFICE II is still the best integrated 5 in 1 program available for the Commodore 64.

CIAO FOR NOW!

Advertisement

C64 SOFTWARE

EXTENSIVE RANGE OF PUBLIC DOMAIN SOFTWARE FROM UK, USA, AUSTRALIA.

EACH DISK CONTAINS MANY EXCITING PROGRAMS FOR ONLY \$5 PER DISK.

● SPECIAL ●
INTRODUCTORY
OFFER

5 DISKS - \$20

+ FREE CATALOGUE DISK

● GAMES ● GRAPHICS
● UTILITIES
● TUTORIALS
IMMEDIATE DELIVERY

☐ PLEASE SEND 5 DISK OFFER \$20 CHQ/M.O. ENCLOSED

Please tick your preference(s):

___ Games ___ Computing
___ Art ___ General

☐ PLEASE SEND FREE CATALOGUE

Name: _____

Address: _____

PostCode: _____

Post To: BRUNSWICK PUBLICATIONS
29 WATSON STREET
BONDI NSW 2026

Dealer Profile

The Hard Disk Cafe

by Ross Morten

➤To say that Karen Williams is enthusiastic about the Amiga is probably the world's biggest understatement. A self-confessed Amiga "fanatic", Karen, along with husband Neil, owns a computer store in Sydney which is dedicated to the Amiga. Well, almost - because Commodore also sell MS-DOS machines they condescend to stock some MS-DOS software.

In spirit, the Hard Disk Cafe is an Amiga shop through and through. They've been in business for just twelve months, but in that time, have grown to be one of Commodore's most successful dealers.

Originally computer department manager at one of Sydney's major department stores, Karen found the rigid structure far too limiting. "I wanted to get into the new Amiga products," she said, "but the rigmarole to purchase anything was ridiculous."

Karen asked Commodore where they wanted a dealer, and the northern beaches was suggested. Friends and acquaintances said "You're crazy!"

Three of the basic tenets of successful retailing, according to the textbooks, are position, position and position. Perhaps they should start re-writing the textbooks - the Hard Disk Cafe is almost hidden in a back lane, not quite in the shopping centre at Mona Vale. In fact, if you didn't know where it was, you'd probably miss it completely! So what has made the Hard Disk Cafe successful?

"Our formula is simple," says Karen. "Enthusiasm, product knowledge and service. We pride ourselves on not being box movers like most of the bigger stores. We provide service. People come to us when they want advice - and stay with us."

"We also pride ourselves on being first. If you're looking for new applications, the Hard Disk Cafe will have them before anyone else. We're willing to take a chance where others sit back and wait."

"A good example was the Canon ION digital camera. We even showed Canon how to use it with an Amiga! The other thing that makes us different is our product knowledge. We're all Amiga enthusiasts, so learning new products is pure enjoyment, not a chore. We love doing it - and that's important."

The Hard Disk Cafe is now Commodore's largest single store outlet of Amiga 2000 and 2500 systems, mainly to the commercial and professional markets. With that goes a large volume of "applications" software - products to handle graphics, video production, music and animation.

"A lot of our sales are generated from our ads in the *Commodore and Amiga Review*," she said. "That's worked wonders for us."



You can contact the Cafe at:
Shop 9
Akuna Lane,
PO Box 879,
Mona Vale
NSW 2103
(02)979 5833
fax (02)
979 6629.

Karen and Robert

COMMODORE

MPS 1230 Printer
\$329.00

1541-11 Disk Drive
\$295.00

1084S Color Monitor
\$475.00

PC COLT

- IBM Compatible
- 640K RAM
- Dual Floppy
- 101 Key Keyboard
- 10mbs

\$999.00

FREE MONO SCREEN

PRINTERS

Okii

ML172 9 Pin 180cps
\$279

ML320 9 Pin 300cps
\$599

ML390 24 Pin 270cps
\$699

CITIZEN

200 GX 9 Pin Colour
240 cps Paper Park
Push or Pull Tractor
\$499.00

GSX140 24 Pin Colour
192cps Paper Park
\$775.00

2 YEAR WARRANTY

SHARP PORTABLES

- IBM Compatible
- 640K RAM
- Dual Floppy
- LCD Backlit Screen

\$795.00

Includes software

SHARP LAPTOPS

SHARP SCANNERS

SHARP LASERS

**ALL IN STOCK NOW
LAPTOPS FROM
\$1,499.00**

AMIGA

AMIGA SOFTWARE

Atalk III	\$79.00
Deluxe Paint III	\$239.00
Deluxe Video III	\$165.00
Maxiplan Plus	\$199.00
Pen Pal	\$199.00
Phasara	\$99.00
Professional Page	\$399.00
Pro Write 3	\$199.00
Superbase	\$79.00
Superbase Prof.	\$299.00



AMIGA GAMES

Blue Angels	\$46.00
Crackdown	\$36.00
E-Motion	\$36.00
Knights of the Crystallion	\$36.00

Operation Thunderbolt

Platoon	\$20.00
RVF Honda	\$45.00
Shuffle Puck Cafe	\$30.00
Space Ace	\$75.00
Vegas Gambler	\$25.00



HUNDREDS OF GAMES IN STOCK

POWER UP YOUR 2000

XT Bridge Board	\$749
AT Bridge Board	\$1349
40Mb Hard Drive	\$899
80Mb Hard Card	\$1649
105Mb Hard Card	\$1795
Flicker Fixer	\$749
2058 RAM Expansion	\$799

COMMODORE 64

Snow Strike (D)	\$19.95
Crack Down (D)	\$32.00
Rainbow Island	\$32.00
F14 Tomcat	\$32.00
F18 Hornet	\$32.00



BUSI-SOFT COMPUTERS



BOX HILL - 618 Station St
FRANKSTON - 20-22 Young St

Ph: (03) 890 8900
Ph: (03) 770 1717
Fax: (03) 783 7024

Notepad

Deluxe prices slashed!

ECP, distributors of Electronic Art's products in Australia, have slashed the prices of all programs in the *Deluxe* series from over \$200 in some cases to a mere \$99. Amazing as it may sound, *Deluxe Paint III*, previously around \$249, will now sell for only \$99!

Faster SCSI Controller with RAM!

Great Valley Products Impact have launched new versions of several of their well products including a new Series II A2000 SCSI/Ram (8.0) controller - a multi-function expansion adapter which provides a high performance SCSI hard disk controller as well as an 8MB RAM expansion board on a single A2000 expansion card.

Impact's technical specifications include an autoboot feature, autoconfiguring, transfer rates of up to 4MB/Sec synchronous, and an external SCSI connector for connecting up to seven external SCSI de-

vices. In practice the board achieves 900 Kb/sec on a standard Amiga or 1.5 Mb/sec when using a GVP 68030 Accelerator. The board transfers 16 bit Direct Memory Access data to the onboard 16K disk buffer. Part of the performance improvement is due to a new VLSI chip design which allows dual port memory access to FAST RAM, eliminating typical DMA side effects during the display of complex graphics.

RAM is added in easy to plug in SIMM modules - from 0Mb to 8Mb including 6MB configuration. The package comes complete with a manual and detailed installation instructions, a flat 50 pin ribbon cable for connecting internal SCSI hard drive, and a one year factory warranty. Full support is included for virtually any SCSI device including CD-ROMs, tape drives, and removable bernoulli drives. The installation software is now a fully intuition driven

utility - which will be a great help for new users.

GVP products are distributed in Australia by Power Peripherals (03) 369 7020.

New Horizons enhances ProWrite 3.0

ProWrite 3.0 is selling well - but New Horizons have already released an improved version - 3.1. The latest up-

grade contains enhancements to the file requester and the font selection menu and incorporates a "speak" option.

The file requester now allows users to cycle through mounted devices in two directions. Additionally, path names and file names may be entered into an intelligent string gadget that recognises the difference between a path and a file so that only one string gad-

COMPUTER PRODUCTS

IBM EMULATOR FOR A500

External Slimline disk drives, with switch, 12mths warranty, for Amiga \$199.

Memory Boards in stock from \$180.

Starcursor joysticks \$54.00.

All Pacronics and ECP products available. New Abacus Amiga manuals in stock.

Quality Computer and printer accessories.

Latest Amiga Magazines, Australian Commodore and Amiga Review, other overseas publications and software available.

Bi-monthly Amiga workshops. Next meetings on Sunday 7/10/90. Ring for details.

Mail and Phone orders welcome

WHITE'S COMPUTERS

"Service is our motto"

(02) 634 6636

37 Daphne Ave. Castle Hill 2154.
Bankcard/Mastercard/Visa Welcome

PCM COMPUTERS

VDrive70	70 Meg A500 Hard Disk Drive - ST506 28mS NEC mech. \$1250	AMIGA 500	A500 Computer system with 1 Mb RAM \$995
	64K RAM buffer / FFS. Formatted, installed, ready to run.		ChipRAM/FastRAM switchable. Full warranty
	Very fast, non-autoboot, external power. 12 months warranty.	A500	Monitor stand all-steel \$40
1.2/1.3	Mod to install Kickstart 1.2 and 1.3 in A500's/A2000's \$60	EPSON	LQ-400 10" 24-pin 360 dpi hi-res 180cps printer \$530
1Mb	Convert your A500 to access 1Mb chipRAM. REV.6. A500 \$30	EPSON	LQ-550 10" 24-pin 360 dpi hi-res 180cps printer \$620
ChipRAM	Switchable 0.5M/1Mb REV.5. A500 \$110		with push tractor / paper park / semi auto-load
256x1 RAM	RAM chips 41256 - 256K x 1 150ns - min qty. 16 each \$2.20	DISKS	3.5" DSDD box of 10 \$12
			5.25" DSDD pack of 10 \$5
GVP	PCM supplies the full range of GVP products including	PD Disks	Public Domain Software - per copy (excl. disk) each \$2
RANGE	all hard drive systems, tape drives and accelerator boards.		over 500 disks to choose from.

VDrive 5.25 5.25" Ext. Floppy Drive \$240

70cm 12mm round shielded cable, DB23's, Pass-Thru, Drive disable and write protect switches. 12mths warranty.

PCM501 A500 0.5 Meg Expansion \$120

0.5 Meg expansion board to suit A500 expansion slot. Compatible with A501 but with no clock.

PCM501+ (with clock) \$135

2 / 28 Ashton Rise Doncaster East
34 Kidman Court Thornlie
34 Mac Dougall Road Golden Square
PO BOX 70 Noble Park North

VIC 3109
WA 6108
VIC 3555
VIC 3174

FAX or Phone (03) 841 8889
Phone (09) 459 0609
Phone (054) 416 277
FAX or Phone (03) 701 0343

get is needed. Also, all mounted volumes and assignments may be viewed and the requester can be toggled to show all files or just *ProWrite* files.

For use in teaching the visually impaired, *ProWrite* now has an option to speak selected text. It offers controls for voice tone, pitch, and rate and works with both phonetic and standard text. The font selection menu item now has a submenu that lists up to 18 fonts. The user may add fonts to or subtract fonts from this submenu using the font requester.

Other enhancements include increased macro command capabilities, enhanced ARExx support, and support for most of the new features in Workbench 2.0.

Minimum memory of one megabyte and Kickstart 1.2 are required. *ProWrite* is distributed in Australia by Computermate (02) 457 8388.

Macro68

DigiSoft, an Australian based software company, has released a powerful new assembler for the Amiga. Macro68 supports the entire Motorola M68000 Family including the MC68030, MC68882 FPU, and MC68851 MMU. Additional capability includes the Amiga Copper.

This fast, multi-pass assembler uses the new Motorola M68000 Family assembly language syntax, and comes with a utility to convert old-style syntax source code painlessly. The new syntax was developed by Motorola specifically to support the addressing capabilities of the new generation of CPUs.

Most features of Macro68 are limited only by available memory. It also boasts macro power unparalleled in product of this class. Many new and innovative assembler di-

rectives ease programming burdens. A special structure offset directive assures maximum compatibility with the Amiga's interface conventions. Full list-ing control including cross reference capabilities is included. A user accessible file provides the ability to customise directives and run-time messages from the assembler.

Macro68 is fully re-entrant, and may be made resident. An ARExx interface provides real-time communication with the editor of your choice. A number of directives enable Macro68 to communicate with AmigaDos. External programs may be invoked on either pass, and results interpreted.

Possibly the most unique feature of Macro68 is the use of a shared-library. The library is always resident, and allows the use of pre-assembled, resident include files for incredi-

bly fast assemblies. These may be the standard Amiga files, or any header files may be used. Additionally, a configuration file may be defined that will setup a particular environment, or insert specific in all assemblies.

The program is compatible with the directives used by most popular assemblers. Output file formats include executable object, linkable object, binary image, pre-assembled symbol tables, and Motorola S records. Recommended retail price \$195.00, requires Amiga 500, 1000, 2000, 2500, 3000 with at least 1 meg of memory.

From DigiSoft Pty Ltd, 12 Dinmore Street, Moorooka 4105, ph: (07) 277 3255.

PageFlipper Plus F/X

Now with the addition of

Quadrant Computers PERTH, W.A.

Amiga Accessories		64 Accessories	
KCS Power PC Board	\$689	GEOS 64	\$55
Minimegs 2MB Mem Exp	\$489	GEOS 128	\$65
4MB Baseboard INT A500 fr	\$250	SUPERBASE 64/128	\$45
8MB A2000 2MB POP	\$579	POWER CARTRIDGE	\$74
AMAS Adv Midi + Sampler	\$265	TURBO LOAD	\$39
Series II Philips Monitors	\$485	StarCursor Joysticks	\$50
GVP SERIES II Hard Drives	CALL	Custom Comp Covers	Call
GVP ACCELERATOR Cards	CALL	SKC 3.5" \$16 5.25"	\$10
Microswitch Replace Kit	\$18	Quadrant Brand 3.5"	\$14
Replacement Mouse	\$49	Laser Printing \$1 per page	
501 Mem Exp On/Off Switch	\$140	Public Domain inc disk \$1.75	
3.5" External Disk Drives	\$169	Call for PD Listings	
Hitachi Camera for DIGIVIEW	\$645	Australia Wide Delivery 3KG \$9.00 MAIL ORDERS WELCOME	
MIGRAPH HAND SCANNER	\$645		
HEAT TRANSFER Ribbons	CALL		
Works Platinum	\$189	AMOS	\$110
Excellence 2.0	\$275	AMAX inc Chips	\$525
Prowrite 3.0	\$185	AMAX V.2 Soft	\$359
Pen Pal	\$185	Action Replay	\$175
Pagestream 2.0	\$375	Audio Engineer	\$179
SuperBase Pro	\$275	Audio Engineer +	\$379
Easy Ledgers	\$375	VIDI AMIGA	\$325
		QUARTERBACK	\$79
		Quarterback Tool	\$89
		Amiga Vision	\$189
		IMAGINE	\$399
		Animation Studio	\$225
		Megadisk	\$18
		Public Domain	\$1.75

FOR FREE CATALOGUE SEND POSTAGE PRE-PAID
ENVELOPE - STATING YOUR COMPUTER TYPE



26 Rochester Way, Dianella
PO Box 380 Morley WA 6062
Facsimile (09) 375 1113
Pager (09) 480 5254
Discovery 069005050
Telephone (09) 375 1933



Leading the Way in
Western Australia

Trading hours (WST)
8-6 Mon-Fri
8-9 Thurs 8-5 Sat



Phoenix

Microtechnologies Pty Ltd

A500

512K internal memory, with clock	\$145.00
512K internal memory, without clock	\$125.00
(both with disable switches)	

A1000 and A500

8Meg Memory Expansion 0K	\$398.00
8Meg Memory Expansion 512K	\$478.00
8Meg Memory Expansion 1Meg	\$558.00
Hard Disk Controller, Interface	\$350.00
Power Supply (necessary with A500)	\$50.00
As above Plus 40 Meg Hard Drive	\$950.00
5.25" 880K Drive	\$278.00
Drive Swap switch, Boot from DF1:	\$30.00

Visa/Mastercard/Bankcard accepted C.O.D. can be
arranged Call or Fax your order or inquiries through
Mon-Fri 9 am - 6 pm Sat 10 am - 1 pm

Phoenix Microtechnologies Pty Ltd

18 Hampton Road, Keswick, Sth. Australia 5035
Phone (08) 293 8752 Fax (08) 293 8814

resolution animations in smooth sequence or easily flip animations upside down or left to right. The package operates in HAM, extra half brite, and overscan modes. It supports ANIM format and compiled animations can be chained across more than one disk. There's a choice of compression methods, and context sensitive on-screen help facility. For more information call Computermate on (02) 457 8388.

TV Text Professional

The professional version of TV-Text is now available. With a click of your mouse, *TV Text Professional* renders text, shapes, and objects in any number of colourful and dazzling styles. Full IFF image capability means you can use *TV Text Professional* in conjunction with a wide variety of graphics and animation programs.

Exciting effects can be produced automatically - outlines, shadows, metallic, strobos, edges, extrusions (3D), colour animated glows, glints sheens, and cycles. These can be applied to text, shapes, and IFF images. Dozens of present rendering styles are included. You can also create your own styles with built in editor.

Inside the box you'll also find Zuma Fonts volumes 1, 2, & 3 on three disks or use any Amiga fonts including colour fonts in italic, bold, and underline with adjustable character spacing.

For video work, *TV-Text Professional* is genlock compatible. Drawing Tools include shapes, lines and borders. Other options are stencils, resize, rotate and flip, automatic recolouring of imported images. Automatic text justification and leading is provided or you can position according to a definable grid. Editing includes full undo, cut, copy and paste.

An Amiga with 1 Mb of RAM is required. A Fat Agnus chip is also handy. RRP \$189. From Computermate.

News from the USA

Bars & Pipes Add-on Series

Blue Ribbon Bakery is currently shipping two add-on packages for *Bars & Pipes*.

With the Internal Sounds Kit, which includes the keyboard, instruments, and player, MIDI is no longer needed for composition and creation. The two disk package includes Spare Keys (an input tool which allows the entry of notes with either the mouse or the Amiga keyboard), the ECT SampleWare IFF Sounds Collection, and the Amigophone (an output tool which allocates simultaneous internal sounds on the fly).

MusicBox A, the second add-on accessory for *Bars & Pipes*, contains 17 tools and one accessory. Among the tools are Glissando, Event Filter, Repeat, and Stereo Dubler. True Colours, the only accessory, is a colour palette editor. Both add-on packages sell for US\$59.95

Pixound & Hyperchord

Hologramophone Research has announced the release of two new products, *Pixound* and the *Hyperchord* kit. *Pixound* is a musical screen interpreter which uses both MIDI and Amiga internal voices. By translating the red, green, and blue content of each pixel into chords, *Pixound* converts pictures into music.

Because music can actually be composed and performed with *Pixound*, Hologramophone has added MIDI recording capacities for serious musicians who wish to generate melodic and harmonic sequences for use in other music programs. Designed for the novice or the professional, *Pixound* sells for \$109 (U.S.)

Hyperchord is a riff sequencer which can use either MIDI or Amiga's internal voices. It allows the user to

create riffs of up to 40 notes, which can then be stored and manipulated in real time. *Hyperchord* incorporates two modes: Dynamic and Play. Dynamic mode allows for the use of several tools to create anything from simple scale runs to complex "riff waves." Riffs can be varied by using *Hyperchord* functions such as smear, rotate, weave, reverse, and mix. In addition, a Grab-bag feature create 30 riffs based on a unique set of algorithms. The creations can then be stored and played back in real time in the Play mode.

The suggested retail price is \$159 (US).

FAX for Amiga

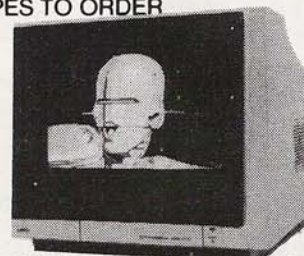
MichTron has announced Fast Fax, a hardware and software package that features attributes of a Group III fax machine. The hardware features

an 8Mhz 68000 processor, 32K Ram, 64K Rom and nonvolatile configuration storage. Fast Fax is compatible with CCITT Group III. The telephone interfaces at RJ11C; the host communication port is RS232C Communications Port supporting 19.2 bps. The software features a receive and send mode, auto scheduling, IFF to Epson converter, transaction reports and small memory resident program (90k). Fast Fax sells for US\$699.95.

HI-TEK MONITOR FILTER

COMMODORE 1081: 1084: PHILIPS 8833: 8854:
ALL OTHER TYPES TO ORDER

Our high quality filters are made from optical quality 3mm Acrylic specially tinted. It's unique filtering qualities have been extensively tested and approved by Amiga user groups, doctors and government offices.



Made in Australia 10 year guarantee

\$39.95 inc P & P

- TOTALLY ELIMINATES MONITOR GLARE.
- RESOLVES LONG EXPOSURE ADVERSE EFFECTS.
- PROTECTS FROM R.S.I. EYE STRAIN.
- ENHANCES ON SCREEN COLOURS.
- INCREASES IMAGE SHARPNESS.
- MAKES INTERLACE MODE VIABLE.

HARRIS HI-TEK PTY. LTD.

P.O. Box 112 Erina N.S.W. 2250

Tel: 02 671-1856 or Fax: 043 85-2051

MONITOR TYPE

PAYMENT: PLEASE INDICATE METHOD ☒ PLEASE DEBIT MY CREDIT CARD
VISA - MASTERCARD - BANKCARD

☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐

☐ CHEQUE - P.O.

EXPIRY DATE

MR/MS/MRS

SURNAME

INITIALS

SIGNATURE

ADDRESS

POST CODE

Making Music is easy with the **KAWAI FunLAB MUSIC SYSTEM**

INTRODUCING THE
COMPLETE MUSIC
SYSTEM FROM KAWAI



- No technical knowledge of MIDI is required to operate the software.
- No external amplification is needed.
- System operates on Amiga 500, 1000, 2000 and 2500.

THE KAWAI FunLAB MUSIC SYSTEM

HERE'S WHAT YOU GET...

- KEYBOARD -** A 61 note keyboard with full size keys (colour co-ordinated with the Amiga), built-in stereo speakers, 100 different studio sampled instrument sounds, 100 accompanying rhythms, programmable One Finger Ad Lib feature, and lots lots more.
- SOFTWARE -** Steinberg FunLAB software is a 5 track sequencer (allowing overdubbing and multi-track recording) with music notation display, song lyric display, jukebox feature, optional 'quantize' or error correct and three demonstration songs.
- MIDI INTERFACE -** Compact MIDI interface which fits directly into your Amiga serial port.
- MIDI CABLES -** Two MIDI cables for connecting the KAWAI keyboard to the MIDI interface.



KAWAI

Sounds great!

DEALER ENQUIRIES WELCOME

Contact:
KAWAI AUSTRALIA PTY LTD,
PO BOX 189,
WATERLOO NSW 2017
PH (02) 663 0571
FAX (02) 662 4726

Please send me more information on the Kawai FunLAB Music System

Scissors icon

Name:
Address:
Phone:
I own a:

COMMODORE COMPUTER



PC Student Pack from \$1,799[†]

INCLUDES OVER \$500 OF SOFTWARE AND ACCESSORIES

Write essays, school reports and projects. Learn typing and play games. *Commodore Personal Computer* dual disk drive or 40mb hard disk system with colour monitor. Industry standard MS-DOS and 12 months warranty.

Software titles include *Bank Street Writer*, the first genuinely easy-to-use word processor; *Type*, develop your basic typing skills; *Where in Europe is Carmen Sandiego?* Geographic and historical skills sharpener; and *Karateka*, a karate game of good, clean fun. *Expert Training*, a complete step by step instructional course on audio cassettes, plus 10 *Floppy Disks* to get you started.



PC Home Pack from \$1,799[†]

INCLUDES OVER \$500 OF SOFTWARE AND ACCESSORIES

Keep tax records, household budgets, write letters, play educational games, prepare pie and bar charts, word processing and more.

Commodore Personal Computer dual disk drive or 40mb hard disk system with colour monitor. Industry standard MS-DOS and 12 months warranty.

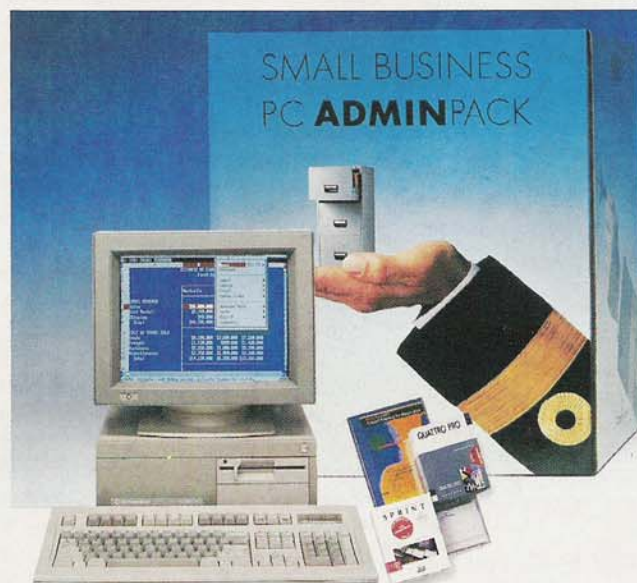
Software titles include *First Choice*; *Touch Typing Tutor*, learn to type professionally in no time at all; and *Sim City*, educational entertainment about life in the city.

Expert Training, a complete step by step instructional course on audio cassettes, plus 10 *Floppy Disks* to get you started.

CALL 008 023 233 FOR YOUR NEAREST COMMODORE DEALER.

*Available in capital cities & selected regional areas. †All prices quoted are RRP. Software packages offered are not produced by Commodore.

HAS THE ONE STEP SOLUTION



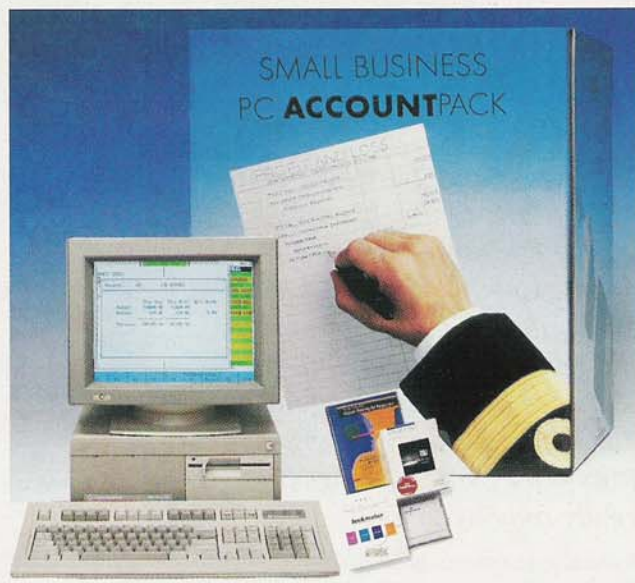
Small Business PC Admin Pack \$3,299[†]

INCLUDES OVER \$1,000 OF SOFTWARE AND ACCESSORIES

Zip through correspondence, price lists, spreadsheets; merge invoices against customer queries. Brilliant graphics for presentations. *Commodore Personal Computer* 40mb hard disk system with colour monitor. Industry standard MS-DOS and 12 months warranty.

Software titles include *Quattro Pro*, for quality presentations and superior spreadsheet power; *Sprint*, easy to use, fast and flexible, the powerful word processor.

Expert Training, a complete step by step instructional course on audio cassettes, plus 10 *Floppy Disks* to get you started.



Small Business PC Account Pack \$3,299[†]

INCLUDES OVER \$1,000 OF SOFTWARE AND ACCESSORIES

Full accounting pack with ledgers, inventory, profit/loss and invoicing. *Commodore Personal Computer* 40mb hard disk system with colour monitor. Industry standard MS-DOS and 12 months warranty.

Software includes *Sybiz Bookworker*, Australia's internationally famous accounting package, the complete program for keeping all your business accounting books; *Sidekick Plus*, the enhanced personal productivity system; diary, calculator, phone book, alarm and file manager; and *Expert Training*, a complete step by step instructional course on audio cassettes, plus 10 *Floppy Disks* to get you started.


Commodore



FREE INSTALLATION*

JSA COM 0473

KAWAI Funlab Music System

Amiga is pounding its way into Atari territory - be it rather slowly - as more and more people become aware of its amazing music capabilities. In the Professional arena, the software has almost caught up. For the beginner, as Dave Rossy discovered, things are really moving ahead!

Recently, there has been a significant increase in awareness of the capabilities of the Amiga for music applications. This has been led by the availability of several professional level MIDI software packages from companies such as Blue Ribbon Bakery, Passport and Steinberg. So the Amiga is beginning to make some in-roads into the professional music market.

However, the Commodore Amiga has the largest user base in the home market. Commodore has sold more of the Amiga 500 to children and families than any other brand of computer. To date, there has been no serious attempt by any supplier to sell music applications to this huge market. Until now that is.

Kawai is one of the major music instrument suppliers in the world. Their acoustic pianos are very well regarded professionally, and their digital pianos and synthesizers enjoy healthy sales in the professional market.

The marketing gurus in Kawai realised the significant size of this market of Amiga owners who are also the same people who would buy their portable, home keyboards. So together with the German music software house Steinberg, they have produced a self-contained package for Amiga users.

The Kawai Funlab Music System includes:

- a special version of the FS680 keyboard (colour coordinated with the Amiga)
- a MIDI interface
- MIDI cables
- the Steinberg Funlab software.

With this package, any Amiga 500, 1000 or 2000 owner will have everything needed to build a start-up MIDI music system.

The FS680 keyboard is an interesting musical instrument in its own right. First of all, it has a built-in speaker system, and can run on batteries as well. Therefore, unlike the professional keyboards, it does not require external amplification. But

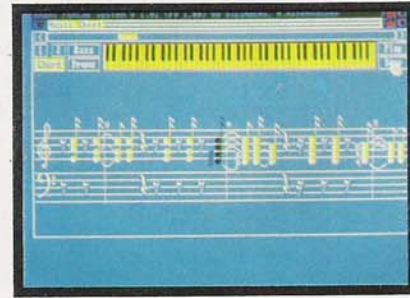
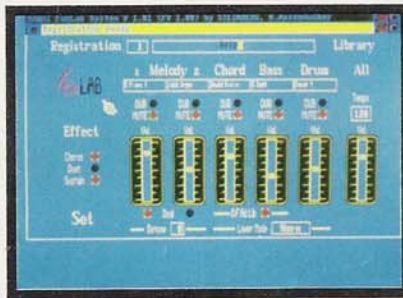
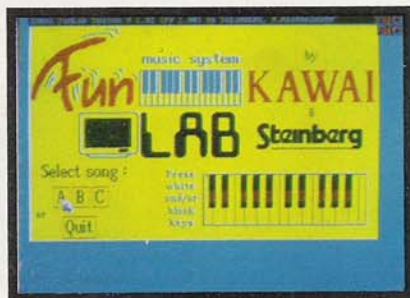
many users may still wish to use their home stereo system to provide a bigger sound.

For those more technically minded, the FS680 produces sounds using 16 bit PCM (Pulse Code Modulation) sampled sound technology. Which means the sounds are quite impressive and rich. There are 100 different instrument tones, ranging from strings and pianos to banjo and koto. More adventurous users can also experiment with doubling sounds, such as combining a cello sound with an organ sound, as well as changing the parameters that make up an individual sound, such as the attack, sustain and decay parameters of the sound envelopes.

To make it more interesting, the FS680 keyboard also produces 100 different accompanying rhythms. A rhythm consists of a drum or percussion pattern with corresponding bass pattern. The 100 patterns available cover every conceivable musical style from rock and pop to jazz and classical. Players with a basic knowledge of chords can simply generate an accompanying drum and bass rhythm by playing a basic chord with the left hand while the right hand plays the melody using any one of the 100 preset sounds. There are four different accompaniment options to cater for different playing styles and situations.

The really interesting and unique feature of this keyboard is the One Finger Ad-Lib. The FS680 has 17 preset phrases for each of the 100 rhythms (that is 1700 different phrases). These phrases are recalled by just one finger playing one of 17 keys in the middle of the keyboard. Not only that, With the One Finger Ad-Lib option enabled, the selected rhythm pattern actually plays through a preset chord sequence, and each of the Ad-Lib phrases actually changes to suit the chord pattern! Literally, you only need one finger to play an interesting jazz riff, or even Ravel's Bolero.

The powerful part about all this is that the One Finger Ad-Lib phrases, the rhythm patterns and the chord sequences are all



user programmable. The keyboard also has capabilities to record three songs.

The FS680 is of course MIDI compatible, and this is where the Amiga and the software comes in. Connecting the FS680 keyboard to the computer is accomplished by simply plugging the compact MIDI interface into the Amiga serial port, and connecting two MIDI cables (also supplied) from this interface to the FS680. That is all there is to it. Now by booting up the Amiga with the disks supplied, the Steinberg *Funlab* software is automatically loaded, and the *Funlab* Music System is up and running.

The *Funlab* software provides many additional capabilities and benefits to the keyboard player. First of all, it allows the recording of songs in a multitrack fashion, that is using overdub techniques as in professional studios. The software also displays recorded tracks in standard music notation. Lyrics can be keyed in and displayed in time as the song plays. And the software can simplify the control of the FS680 keyboard through graphical interfaces. Such functions as editing sounds, selecting rhythm and One Finger Ad-Lib, as well as programming your own phrases and rhythm can be much more easily accomplished on the computer, and downloaded into the keyboard.

Three demonstration songs are included, and any of these can be selected and played without getting into the main body of the software. As these songs play, the screen displays a keyboard, and the notes being played in the songs are indicated dynamically with small black squares.

Jukebox mode allows playing of pre-recorded songs on disks back through the FS680. There will be a selection of song disks available in the near future.

The main screen of the software is the sequencer screen. The *Funlab* sequencer software is basically a five track recorder, with one track dedicated to rhythm, ie drums and percussion. The other four tracks are labelled Melody 1, Melody 2, Chord and Bass, to make it easy to construct a piece of music.

The software communicates with the FS680 using standard MIDI conventions. However, no technical knowledge of MIDI is actually required to operate the software at all. For instance, to select the sound to record in each track, the user simply clicks on the sound box for the track, and scrolls through the list of FS680 preset sounds. This compares with most other software which requires the entry of program change numbers to select tones.

**Once songs are recorded,
they can be displayed in
standard music notation.
From this screen, the song
can also be played, and the
score will scroll in time.**

During recording or play-back, a volume slider for each track allows the real time mixing of sounds as on a conventional mixer. There is also a master volume slider to adjust the overall volume. Each track can also be muted if desired.

Now to the fun part. Let's say we are recording a song with drums, bass, a string part, a lead melody and a counter melody. First of all, the tempo can be selected by clicking on the tempo window. Songs can be recorded in a slow tempo for ease of playing, and played back at the right speed.

To record the drum part first, we click on the Drum track, and the lower part of the FS680 keyboard now plays only drum sounds. Sounds cover the standard drum kit including kick, snare, hi-hats, crash and toms. When the record button is clicked, the in-built metronome starts ticking to the selected tempo. There are two lead-in bars before recording actually starts so that you can get into the rhythm. The drum sounds are then played and will be recorded.

If it is beyond your capability to play multiple instruments at the same time, do not despair. One instrument at a time can be played and overdubbed onto previously recorded sounds. That way, a complex drum part can be built up easily.

If you can't keep to the timing, *Funlab* will optionally "quantise" the notes you have played. That is the notes will be shifted automatically in time to the nearest beat resolution, which you can specify. For example, if the song you are recording uses a minimum of an eighth note (two notes to every tick of the metronome), then quantisation resolution should be set to eighth notes, and your timing will be accurate to the eighth note.

Once the drum part is recorded, we can now proceed to the bass part. This time, various bass sounds can be selected by simply clicking in the sound window for the bass track. When the record button is clicked, and after the two lead in bars, the recorded drum part will play as well (but can be muted if desired). So the bass part

can be recorded in time with the drums.

By proceeding similarly, we can easily select the right sounds for the Chord track, and the two melody tracks, and record each track sequentially. If a particular section of the recording is unsatisfactory, the "Punch-in" feature allows selected sections defined in bars to be re-recorded without affecting the rest of the song.

When all tracks are recorded, it is then easy to experiment with different tempos, different sounds for each track, and also different volume mixes. This is the advantage of a computer based MIDI system over conventional tape based recording systems.

Once songs are recorded, they can be displayed in standard music notation. From this screen, the song can also be played, and the score will scroll in time. The notations are accurate and can be educational for the music student.

Songs can of course be stored to disk, and a "Music Dictionary" feature enables songs and associated parameters to be catalogued. There is also a search feature where partial titles can be entered and matching songs are displayed.

The *Funlab* software also includes a "Registration" feature which enables different keyboard setups to be stored on disk. This way, features such as One-Finger Ad-Libs can be incorporated as part of the song, and the recorded sequence will play in synchronisation with the FS680 keyboard's rhythm. Other keyboard setup parameters such as dual sounds, tempo and volumes are also stored.

If you have recorded a riff or a rhythm on disk that you would like to download to the keyboard for use with the One Finger Ad-Lib, then you can do so as well. This is accomplished through the lyric editor, where instead of lyrics, a simple language is used to specify the introduction, fill, body and ending of the rhythm. This information is then downloaded to the FS680 through the main screen. While this function can be achieved on the FS680 keyboard itself, it is certainly much easier working graphically on a computer screen than pushing buttons and reading LED displays.

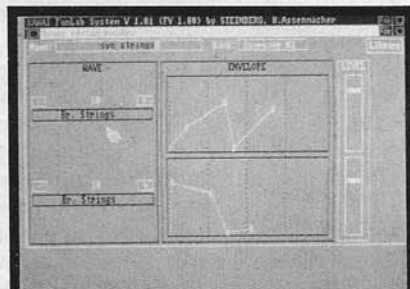
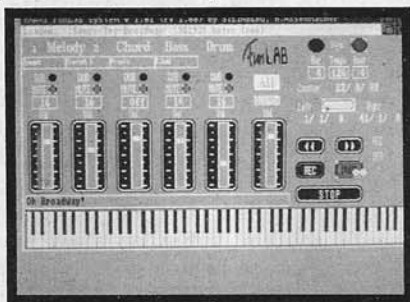
The *Funlab* software's Sound Editor feature also provides the ability to graphically change the characteristics of the sounds. Each preset sound in the FS680 keyboard is a combination of two sound envelopes, and using the Sound Editor, the shape of the envelopes and their relative volumes can be altered with the mouse. This allows a lot of experimentation in sound creation, and the results can either



be stored in the FS680's five user sound locations, or on disk, where there is no limit to the number of different sounds.

All in all, the *Funlab Music System* provides a very good introduction to the world of MIDI recording studios. It is an ideal extension to the Amiga, and provides a much more creative use than simply playing games. The software was especially written for the Amiga by one of the major music software houses. Steinberg actually created the *Cubase* sequencing software for the Atari, and *Pro-24* for the C64 and Amiga, both professional quality packages. The software is not designed for the professional musician, but it has more than enough features for the novice MIDI musician to get started with.

The FS680 keyboard is state-of-the-art in portable keyboards, and the software combination with the Amiga makes it ideal for families this Christmas. Everything required outside of the Amiga and monitor is included. Even the batteries are supplied. At under \$1,000 retail, it is indeed very good value for money. ☐



FREE 100 PAGE CATALOGUE
PLEASE CALL IN & PICK ONE UP

CHEAP DISKS

"NO BRAND"
FREE DELIVERY OVER \$100
BOXES OF 10 DISKS
LIFETIME WARRANTY

	1-9	10+	50+	100+	500+
5 1/4" DS/DD	\$5.20	\$4.90	\$4.80	\$4.60	\$4.50
5 1/4" DS/HDS	\$12.50	\$11.50	\$10.75	\$9.80	\$9.50
3 1/2" DS/DD	\$12.50	\$11.50	\$10.75	\$9.80	\$9.50
3 1/2" DS/HDS	\$32.50	\$29.50	\$29.00	\$28.50	\$27.50

ROD IRVING ELECTRONICS
MELBOURNE: 48 A Beckett St. City. PH: (03) 663 6151
NORTHCOLE: 425 High St. Northcote. PH: (03) 489 8866
SYDNEY: 74 Parramatta Rd. Stanmore. PH: (02) 519 3134
MAIL ORDER: 56 Renner Rd. Clayton. PH: (03) 543 7877
HOTLINE: 008 33 5757

Commodore and Amiga Review 14

MEGADISC

TO MAKE THE MOST OF YOUR AMIGA

New Toll-free Number for ORDERS ONLY - 008 227418

MEGADISC was designed to help you really learn how to use your Amiga. Tutorials, articles, reviews, hints and tips, useful software, and much more are included to help both the beginner and the veteran to use the Amiga more productively. Not too serious and not too lightweight, MEGADISC entertains you while you learn. Available as single issues, subscriptions of any 3 or 6 issues (past or future), or as a TRIAL PACK (including MEGADOS, our Amiga Manual-on-Disk and MEGADISC 17, and our Catalogue-on-disk). If you get a TRIAL PACK, you can subscribe later for the lower rate mentioned below. Megadisc subscribers get lower prices on all our products, including over 1400 public domain disks. Every Megadisc has the latest VIRUS-KILLER.

MEGADISC 18 IS NOW AVAILABLE!

CALL & ASK FOR YOUR FREE CATALOGUE-ON-DISK!

Special offers!

THE ENTIRE MEGADISC SERIES

Order MEGADISC 1-17, MEGADOS and 4 free Public Domain Disks for \$190!
That's 22 information-packed disks! (You can order your PD disks later.)

MEGADOS

AmigaDOS Manual-on-disk, with all you need to know about CLI, Workbench 1.2, 1.3 and ARP described in layman's terms for \$19.95. Price for current subscribers \$13.95

TRIAL PACK

MEGADISC 17, MEGADOS, AND CATALOGUE-DISK for \$29

PAST AND CURRENT SUBSCRIBERS - RE-Subscribe for less!

\$45 instead of \$50 for a 3-issue subscription (free PD incl.)

\$80 instead of \$90 for a 6-issue subscription (free PD incl.)

PUBLIC DOMAIN DISKS FOR \$5 EACH - \$4 FOR SUBSCRIBERS

All our 1400 Disks are fully described on our FREE Catalogue-disk

Buy 10 PD disks, get one free - ie, 11 PD disks for \$40 or \$50!

GAMES 10-DISK-PACK & PD 10-PACK FOR \$50 each, in plastic disk box

WE ALSO TAKE BANKCARD, MASTERCARD and VISA ORDERS BY PHONE OR FAX
CONTRIBUTIONS OF ANY KIND ARE MOST WELCOME - PLEASE CALL

Non-Subscribers: Please add \$2 P & P if ordering Public Domain disks only

I enclose a Cheque/Money Order for or please charge my Creditcard:

Mastercard/Bankcard/Visa No: Exp:

Please send me: Catalogue-on-Disk AT NO COST: TRIAL PACK \$29

ANY 6 issues of MEGADISC for \$90 (please specify): [\$80 for re-subscribers]

ANY 3 issues of MEGADISC for \$50 (please specify): [\$45 for re-subscribers]

MEGADISC 1-17 and MEGADOS and 4 P.D. disks for \$190:

The 4 free PD disks I want (2 in the case of a 3-issue sub) are:

OR please send your Catalogue-on-Disk now and I will choose the remaining disks later:

10-DISK GAMES PACK for \$50: PD 10-Pack in box for \$50

BEGINNER'S PACK (3 DISK SET for \$29)

MEGADOS AMIGA DOS MANUAL-ON-DISK FOR \$19.95: FOR CURRENT SUBSCRIBERS \$13.95

3 DISK ANIMATION SET for \$15 OTHER ORDERS: Please attach.

Signature:

Name:

Address:

Telephone: Date:

Send to: MEGADISC, P O BOX 759, Crows Nest 2065.
Telephone: (02) 959 3692 (all hours) FAX: (02) 959 3525

The Best Assembler Macro68

\$195.00

Requires at least 1 meg of memory.

Macro68 is a powerful new assembler for the entire line of Amiga personal computers.

Macro68 supports the entire Motorola M68000 family, including the MC68030, MC68882 FPU, and MC68851 MMU, as well as the Amiga Copper.

This fast, multi-pass assembler uses the new Motorola M68000 Family assembly language syntax, and comes with a utility to convert the old-style syntax source code painlessly. The new syntax was developed by Motorola specifically to support the addressing capabilities of the new generation of CPU's.

Macro68 boasts macro power unparalleled in products of this class. There are many new and innovative assembler directives to make programming easier. For instance, a special structure offset directive assures maximum compatibility with the Amiga's interface conventions. A user-accessible file provides the ability to customize directive names and run-time messages from the assembler. An AREXX(tm) interface provides "real-time" communication with the editor of your choice. A number of directives enable Macro68 to communicate with AmigaDOS(tm).

Possible the most unique feature of Macro68 is the use of a shared library, which allows resident preassembled include files for incredibly fast assemblies.

Macro68 is compatible with the directives used by most popular assemblers. Output file formats include executable object, linkable object, binary image and Motorola S record.

ReSource will load/save any file, read disk tracks, or disassemble directly from memory. Symbols are created automatically, and virtually all Amiga symbol bases are supported. Additionally, you may create your own symbol bases.

"If you're serious about disassembling code, look no further!"

The original ReSource continues to be available for owners of 68000 based machines. Both versions of ReSource require at least 1 meg of ram.

ReSource \$130.00

ReSource'030 \$195.00

Resource, the powerful disassembler for the Amiga that has received rave reviews, now has a big brother.

Like the original version, **ReSource'030** will tear apart your code like no other program. And it will do so even faster now, because **ReSource'030** is written in native MC68030 code. This means that it won't run on a vanilla 68000, but it will fly on an A3000, or another machine with a 68020/030 board.

ReSource'030 supports the new Motorola M68000 family assembly language syntax, and is a perfect companion for Macro68.

If you're new to **ReSource**, here are a few facts: **ReSource** is an intelligent interactive disassembler for the Amiga programmer. **ReSource** will enable you to explore the Amiga. Find out how your favorite programs work. Examine your own compiled code.

ReSource

The Best Disassembler

To order Macro68:

DigiSoft

12 Dinmore St.
Moorooka, 4105

Brisbane

Ph. (07) 277-3255

Payment is accepted by:
BankCard, MasterCard, Visa
Cheque or money order.



To order Resource:

Glen McDiarmid

28 Marginson St
Ipswich

Ph. (07) 812-2963



SHOP 9 AKUNA LANE PO BOX 879 MONA VALE 2103

FUN & GAMES

3-D POOL	\$49.95	DR DOOMS REVENGE	\$54.95	LICENSE TO KILL	\$49.95
5TH GEAR	\$39.95	DRAGON OF FLAME - AD & D	\$45.95	LITTLE COMPUTER PEOPLE	\$19.95
688 ATTACK SUB	\$45.95	DRAGON SPIRIT - SPECIAL	\$39.00	LOMBARD RALLY	\$59.95
A.P.B.	\$49.95	DRAGONS BREATH - USE COLGATE	\$79.95	LORDS OF THE RISING SUN	\$69.95
ACTION FIGHTER	\$69.95	DRAGONS LAIR II	\$89.95	LOST DUTCHMAN'S MINE - G'DAY KEN	\$69.95
ACCOLADE COMPILATION	\$59.95	DRAKKEN	\$59.95	MANHUNTER NEW YORK (SIERRA)	\$49.95
ADVENTURE PAK - COMP(4 IN1)	\$59.95	DREAM ZONE	\$39.95	MANHUNTER 2 SAN FRANCISCO	\$49.95
ALL DOGS GO TO HEAVEN	\$69.95	DRIVING FORCE	\$59.95	MANIAC MANSION - THCD	\$61.95
ALTERED BEASTS	\$59.95	DUNGEON MASTER 1 MEG SPECIFY	\$61.95	MATRIX MARAUDERS	\$59.95
AMERICAN DREAMS	\$59.95	DYNAMITE DUX!	\$59.95	MAYDAY SQUAD	\$49.95
AMIGA CHAMPIONS - COMP.	\$59.95	DYTER 07	\$59.95	MICROPROSE SOCCER	\$59.95
AMOS THE CREATOR - SPECIAL	\$125.00	ELITE GAMES PACK VOL 1	\$49.95	MICROLEAGUE WRESTLING	\$59.95
ANARCHY	\$59.95	EMPEROR OF THE MINES	\$49.95	MIDWINTER	\$79.95
AQUANAUT	\$39.95	ESCAPE FROM PLANET ROBOT MONSTERS	\$49.95	MILLENIUM 22	\$52.95
ARMADA	\$49.95	EXTRA TIME-FOR KICKOFF	\$59.95	MORTVILLE MANOR	\$39.95
ARTHUR - QUEST FOR EXCALIBUR	\$59.95	F-16 FALCON	\$59.95	MOTORBIKE MADNESS	\$19.95
ASTERIX****	\$49.95	F-19 STEALTH FIGHTER-14000 MISSIONS	\$89.95	MR HELI	\$59.95
ASTRO MARINE CORPS	\$69.95	F.O.F.T.	\$69.95	MURDER ON THE ATLANTIC	\$49.95
BARDS TALE 2	\$49.95	F29 RETALIATOR HOT!!!	\$61.95	NAVY MOVES	\$39.95
BATMAN - CAPED CRUSADER	\$59.95	FA/18 INTERCEPTOR	\$45.95	NEVERMIND - BUY AN AMIGA!	\$54.95
BATMAN - THE MOVIE	\$59.95	FAIRY TALE - TAKES MONTHS TO PLAY	\$89.95	NEW ZEALAND STORY - BAAAA!	\$59.95
BATTLE CHESS	\$61.95	FALCON MISSION DISK	\$49.95	NINJA WARRIORS	\$54.95
BATTLE SQUADRON	\$59.95	FAST BREAK	\$49.95	NORTH AND SOUTH	\$59.95
BATTLE VALLEY	\$49.94	FERRARI FORMULA ONE	\$45.95	NUCLEAR WAR	\$49.95
BATTLESHIPS	\$19.95	FIENDISH FREDDY - HURRY!	\$55.00	OIL EMPORIUM	\$54.95
BEACH VOLLEY	\$49.95	FIGHTER BOMBER HOT!!	\$49.95	OMEGA	\$59.95
BERLIN - EAST v WEST	\$59.95	FIGHTER BOMBER MISSION DISK	\$59.95	ONSLAUGHT	\$49.95
BERMUDA PROJECT	\$59.95	FIRE AND BRIMSTONE	\$59.95	OOZE	\$49.95
BEVERLY HILLS COP	\$49.95	FIRE BRIGADE	\$49.95	P47	\$59.95
BIO CHALLENGE	\$49.95	FIRST CONTACT	\$49.95	PAPERBOY	\$49.95
BLACK TIGER	\$49.95	FLOOD	\$49.95	PARIS - DAKAR CAR RALLY	\$59.95
BLUE ANGEL 69	\$49.95	FORGOTTEN WORLDS	\$49.95	PERSIAN GULF INFERNO	\$69.95
BLUE ANGELS FLIGHT SIM	\$59.95	FULL METAL PLANETE	\$59.95	PHANTASM	\$29.95
BORODINO	\$49.95	FUSION - SPECIAL	\$35.00	PHASER GUN - SPECIAL	\$39.95
BRIDGE PLAYER	\$59.95	FUTURE DREAMS	\$59.95	PICTIONARY	\$45.95
BUBBLE+	\$49.95	GARFIELDS WINTER TALE	\$49.95	PINBALL MAGIC	\$39.95
BUBBLE BOBBLE - 2 CAN PLAY	\$59.95	GHOSTS & GOBLINS	\$59.95	PIPE MANIA	\$59.95
BUDOKAN	\$49.95	GHOSTBUSTER II	\$49.95	PIRATES - MICROPROSE - HOT	\$59.95
BUFFALO BILLS RODEO	\$59.95	GOLDRUSH - SPECIAL	\$49.95	POLICE QUEST	\$61.95
CABAL	\$49.95	GRAND NATIONAL (HORSES)	\$49.95	POOL	\$19.95
CAMELOT (SIERRA)	\$59.95	GRETZY HOCKEY	\$69.95	POPULOUS DATA DISK	\$29.95
CASINO GAMBLING TRUMP CASTLE	\$59.95	HARD DRIVIN'-TO MONA VALE	\$49.95	PORTS OF CALL - STILL HOT! GEOFF	\$39.95
CASTLE MASTER	\$39.95	HARLEY DAVIDSON BIKES	\$59.95	POWERDRIFT	\$59.95
CASTLE WARRIOR	\$69.95	HEAT WAVE (BOAT RACING)	\$59.95	POWERDROME - SPECIAL	\$39.00
CHAMPIONS OF KRYNN - YEEHAA!!	\$54.95	HERO'S QUEST	\$59.95	PREMIER COLLECTION - LOTSA GAMES	\$49.95
CHARIOTS OF WRATH	\$49.95	HEWSONS PREMIER COLLECTION	\$49.95	pro tennis tour	\$49.95
CHASE HQ	\$49.95	HIGHWAY PATROL II	\$59.95	PRISON	\$49.95
CHESS CHAMPION 2175	\$79.95	HILLSFAR DUNGEONS & DRAGONS	\$45.95	PUFFY'S SAGA	\$59.95
CHESS PLAYER 2150	\$69.95	HOUND OF SHADOW	\$49.95	PURPLE SATIN DAY	\$52.95
CHICAGO 90	\$49.95	HOYLES SOLITARE VOL.1	\$59.95	PYSCHO	\$49.95
CHRONO QUEST II	\$79.95	HOYLES SOLITARE VOL.2	\$69.95	QUADRALIEN	\$69.95
CODENAME ICE MAN (SIERRA)	\$59.95	HUNT FOR RED OCTOBER	\$44.95	QUARTZ	\$49.95
COLORADO	\$69.95	I LUDICRUS	\$59.95	RAINBOW ISLANDS	\$59.95
COMMANDOS	\$59.95	IMPERIUM	\$49.95	REALM OF THE TROLLS	\$61.95
CONTINENTAL CIRCUS - SPECIAL	\$45.00	INDIANA JONES - GRAPHIC ADVENTURE	\$59.95	RED LIGHTNING - SPECIAL	\$45.00
CRAZY SHOT USES GUNMOUSE	\$49.95	INTERPHASE	\$59.95	RESOLUTION 101	\$59.95
CREATURE	\$49.95	IRON LORD	\$59.95	RICK DANGEROUS	\$49.95
CREATURES USES GUNMOUSE	\$49.95	ITALY 1990 - GREAT SOCCER	\$59.95	ROADWARS	\$19.95
CRIBBAGE & GIN KING	\$59.95	IT CAME FROM THE DESERT - SPECIAL	\$54.95	ROMANCE OF 3 KINGDOMS	\$99.95
CYBERBALL	\$49.95	IVANHOE	\$59.95	RVF HONDA	\$49.95
D.R.A.G.O.N.FORCE	\$69.95	JACK NICKLAUS GOLF	\$59.95	S.D.I.	\$59.95
DANGERFREAK	\$61.95	JUMPING JACKSON	\$49.95	SAFARI GUNS	\$49.95
DARIUS+	\$49.95	KEEF THE THIEF	\$49.95	SCRAMBLE SPIRITS	\$49.95
DARK CENTURY	\$49.95	KELLY X	\$19.95	SHADOW OF THE BEAST - BEAST II SOON!	\$59.95
DARK SIDE	\$49.95	KENNY DALGLISH SOCCER	\$49.95	SHADOW OF THE BEAST II	\$CALL
DAY OF THE PHAROAH	\$54.95	KHALAAN	\$59.95	SHADOWGATE	\$69.95
DAY OF THE VIPER	\$59.95	KID GLOVES	\$69.95	SHINOBI	\$54.95
DEJA VU II	\$69.95	KINGS QUEST	\$44.95	SHUFFLEPUCK CAFE AT THE HARD DISK	\$59.95
DEMONS TOMB	\$54.95	KINGS QUEST II	\$44.95	SIDESHOW - WITH MUNCHIES - USES GUN	\$49.95
DEMONS WINTER	\$45.95	KINGS QUEST III	\$44.95	SILENT SERVICE - SSII COMING SOON!	\$49.95
DISTANT SUNS	\$79.95	KLAX	\$49.95	SIM CITY MEGA HOT!!!	\$84.95
DOUBLE DRAGON II	\$54.95	KONIX SPEEDKING JOYSTICK - GREAT	\$39.95	SIM CITY TERRAIN EDITOR	\$34.95
DR PLUMMETS HOUSE OF FLUX	\$49.95	LAST NINJA2 - THE VERY LAST (NEW)	\$59.95	SIR FRED THE LEGEND	\$59.95
		LEISURE SUIT LARRY - KEN SENT ME!	\$52.95	SKATE OF THE ART	\$69.95
		LEISURE SUIT LARRY II	\$52.95		
		LEISURE SUIT LARRY III - BUY HINT BOOK	\$79.95		

AMIGA'S ARE

SPECIALISTS

PHONE (02) 979 5833 FAX (02) 979 6629



SHADOW WARRIOR - NINJA STUFF	\$59.95
SIDESHOW	\$49.95
SKIDOO	\$39.95
SKYCHASE	\$52.95
SLEEPING GODS LIE	\$69.95
SOLITAIRE - VOL 1 SEA HAVEN	\$39.95
SOLITAIRE - VOL 2 CALCULATION	\$39.95
SOLITAIRE - VOL 3 ACCORDION	\$39.95
SPACE AGE - SPECIAL	\$79.95
SPACE CONQUEST	\$49.95
SPACE QUEST	\$44.95
SPACE QUEST II	\$42.95
SPACE QUEST III	\$59.95
SPACE RACER	\$49.95
SPACE SCHOOL	\$39.95
STAR BREAKER	\$49.95
STAR COMMAND	\$45.95
STAR CURSOR J/S 3 YEAR GUARANTEE!	\$54.95
STAR RAID	\$49.95
STAR RAY	\$49.95
STAR WARS - SPECIAL	\$29.95
STAR WARS TRILOGY	\$59.95
STEEL	\$49.95
STELLAR CRUSADE	\$49.95
STREET ROD	\$49.95
STRYX	\$54.95
SUPERMAN - MAN OF STEEL	\$49.95
SUPERMAN - NEW	\$49.95
SWORDS OF TWILIGHT	\$45.95
TARGHAN	\$44.95
THEIR FINEST HOUR	\$59.95
TEENAGE MUTANT N.T.s	\$69.95
THE 3RD COURIER-HI TO OUR COMET MAN!	\$59.95
THE CHAMP	\$59.95
THE COLONELS BEQUEST (SIERRA)	\$59.95
THE CYCLES	\$59.95
THE DAY OF THE PHAROH	\$54.95
THE HOUND OF SHADOW	\$49.95
THE FOOLS ERRAND	\$84.95
THE MUNSTERS	\$49.95
THE PLAGUE	\$69.95
THE STORY SO FAR	\$49.95
THE STORY SO FAR VOL 3	\$49.95
THE TOYETTES	\$49.95
THUNDERBIRDS - ARE GO SAYS VIRGIL	\$59.95
THUNDER STRIKES	\$59.95
THEME PARK MYSTERY	\$59.95
TIME	\$69.95
TOTAL ECLIPSE	\$49.95
TOWER OF BABEL	\$59.95
TRACKSUIT MANAGER - SOCCER	\$39.95
TREASURE TRAP	\$59.95
TRIAD VOL 2	\$59.95
TRIAD VOL 3	\$59.95
TURBO OUTRUN	\$49.95
TURRICAN	\$59.95
TV SPORTS BASKETBALL	\$69.95
TV SPORTS FOOTBALL	\$69.95
TWIN WORLD	\$49.95
TWO UP	\$29.95
U.M.S SCENARIO DISK 2	\$29.95
UNREAL	\$59.95
VEGAS GAMBLER	\$49.95
VINDICATORS	\$49.95
VOYAGER	\$61.95
WATERLOO	\$59.95
WAYNE GRETSKY HOCKEY	\$69.95
WEIRD DREAMS	\$59.95
WICKED	\$59.95
WILLOW	\$69.95
WINDWALKER	\$49.95
WINGS NEW & HOT CINEMAWARE	\$89.95
WINNERS COMPILATION	\$49.95
WINTER GAMES	\$39.95
WORLD CLASS L/BOARD GOLF	\$49.95
WORLD CUP SOCCER	\$59.95
WORLD TOUR GOLF	\$45.95
X-OUT	\$59.95
XENON II	\$59.95
XYBOTS	\$49.95
ZANY GOLF	\$49.95
ZOMBI	\$59.95
ZORK ZERO	\$64.95

PRODUCTIVITY

3-D PROFESSIONAL WITH VIDEO	\$550.00
MODELS - RENDERING & ANIMATION	
ADVANTAGE	\$279.00
AWARD MAKER PLUS	\$49.95
AMIGAVISION - THIS IS SPECIAL!!	\$199.00
AMIGA POSTCODE	\$49.95
ART PARTS - DPAINT III	\$49.95
AMOS	\$125.00
ASSEMBRO	\$149.00
ATALK III -SPECIAL-	\$69.95
BOARD MASTER - CAD/PCB	\$149
BUSINESS CARD MAKER	\$69.95
BUMPER STICKER MAKER	\$79.95
CALCKEY VER 1.2	\$29.95
- CRITICS CHOICE SPECIAL INCLUDES -	
MICROFICHE FILER, MAXIPLAN 500, KINDWORDS	\$129.00
CROSS DOS - NEW VERSION 4.0	\$64.95
DELUXE MUSIC CONSTRUCTION SET	\$99.95
DELUXE PAINT III	\$99.95
DELUXE PHOTO LAB (POSTERS TOO)	\$99.95
DELUXE PRINT II	\$99.95
DELUXE VIDEO III -DITTO PRICE-	\$99.00
DELUXE PHOTO LAB	\$209.00
DIGIMATE III	\$59.95
DESKTOP BUDGET - SPECIAL	\$49.95
DIGIPAIN 3	\$135.00
DISKMASTER	\$59.95
DG CALC	\$89.95
DIGIVIEW GOLD 4	\$269.00
DIGIDROID	\$159.00
EASY LEDGERS ACCOUNTING	\$375.00
EASY LEDGERS *NEW* SPECIAL PRICE	\$499.00
SPECIAL INDUSTRY EDITION WITH JOB COSTING	
ELECTRONIC DEBTORS SYSTEM	\$299.00
ELAN PERFORMER	\$89.95
FACC II-SPEEDS UP DRIVES	\$54.95
FREELANCE DATABASE	\$49.95
FORMATION	\$99.00
FLIPSIDE	\$39.95
FANTAVISION	\$99.95
GOLDSPELL II	\$44.95
HAM IT UP - WORKS WITH DPAINT ETC	\$69.95
DISPLAYS AND PRINTS ALL 4096 COLOURS	
HOMEBUILDERS CAD	\$299.00
INTROCAD	\$99.00
MAC TO DOS	\$189.00
LATTICE C version 5	\$399.00
MICROFICHE FILER - SPECIAL	\$89.00
PAGESSETTER II - C/GRAPHIC FONTS	\$175.00
PEN PAL - WORD PRO	\$199.00
PIXELSCRIPT - POSTSCRIPT	\$199.00
POSTCODE FOR AUSSIE SEARCHER	\$49.00
PHOTON PAINT V2 HAM PAINT PRO	\$199.00
PROFESSIONAL DRAW 2.0 AUTO TRACE	\$275.00
ECLIPS - PRO DRAW/PAGE CLIP ART	\$139.00
OUTLINE FONTS - FOR PRO PAGE	\$269.00
PROWRITE V3 - KAREN'S FAVORITE	\$199.00
PRO VIDEO PLUS (PAL) SPECIAL	\$355.00
PRO VIDEO FONTS (SET2)	\$149.00
PROFESSIONAL PAGE - SPECIAL	\$299.00
PROMOTION - FOR VIDEOSCAPE 3D	\$119.00
PROSCRIPT FOR PROWRITE	\$64.95
PRINTMASTER ART GALLERY I	\$49.95
PAGESTREAM V.2	\$399.00
PAGESTREAM FONTS VOL 1.1	\$59.95
QUARTERBACK - FOR HARD DRIVES	\$99.00
SEASONS & HOLIDAYS CLIP ART	\$45.95
SMARTKEY	\$59.95
SPRITZ	\$99.95
SUPERBACK	\$99.00
TOTAL CONTROL DIET	\$149.00
VIDEO TITLER + LIGHTS CAMERA ACTION	\$169.00
WALT DISNEY ANIMATION STUDIO	\$249.95

SUPERBACK	\$99.00
SYSTEM 3 (Accounts)	\$129.00
TV TEXT PROFESSIONAL	\$259.00
THE ART DEPARTMENT	\$129.00
VIDEO TITLER	\$169.00

SOUND N' MUSIC

ROB'S COLUMN

AUDIO MASTER III	\$119.00
BARS & PIPES - NEW MUSIC PAK	\$299.00
DR. T'S COPYIST APPERTICE	\$149.00
DR. T'S COPYIST DTP	\$449.00
DR. T'S KCS LEVEL II	\$399.00
DR. T'S MIDI RECORDING STUDIO	\$84.95
DR. T'S MUSIC MOUSE	\$99.00
DR. T'S PHANTOM (SMPT SYNCH)	\$139.00
DR. T'S TIGER CUB	\$119.00
DELUXE MUSIC CONSTRUCTION SET	\$99.95
ECE MIDI	\$199.00
ENUNCIATOR	\$34.95
MASTER SOUND	\$89.95
MIDI MAGIC	\$299.00
MUSIC X - ROB'S SPECIAL	\$299.00
PERFECT SOUND 3.0	\$199.00
POCKET AMI - SPECIAL	\$89.95
SONIX 2.0 - MUSIC	\$99.00

WHATS NEW & HOT!

AMIGA 3000
3-D PROFESSIONAL
WALT DISNEY ANIMATION STUDIO-
NEW SIERRA GAMES
EASY LEDGERS WITH JOBCOSTING
DPAINT III
UNDER \$100 - WOW
BRAIN SCRAMBLER
WINGS

G'DAY!

BERT n ANDY
 HI TO DYSART & DINGO IN QLD.
 AND THE LONG ARM USER GROUP
 ALSO IN QLD.
 HI TO MATT & GARY AT CBM,
 WHO ARE STILL WAITING FOR THE
 OPENING PARTY
 - SORRY GUYS, TOO BUSY RIGHT NOW
 HI TO DAVE IN ANTARTICA
HAPPY HACKING GUYS & GALS

HOT! AT

AMIGA 3000

COMPUTERS & PERIPHERALS

AMIGA 500 COMPUTER	\$799.00
AMIGA 500 STARTER KIT II + VIDEO + 18EXTRA GAMES	\$875.00
AMIGA 512K RAM EXPANSION & CLOCK - SPECIAL	\$150.00
AMIGA EXTERNAL DRIVE	\$179.00
AMIGA A590 HARD DRIVE (EXPANDABLE)	\$799.00
AMIGA 2000	\$1850.00
AMIGA 2000+40 MG/HD	\$2950.00
AMIGA 3000 WITH OS Version 2.0	\$WOW!
AMIGA 2091/40HD QUANTUM 2MB - OPT	\$1100.00
1084S COLOUR MONITOR	\$499.00
XT BRIDGEBOARD (A2000) (LIMITED STOCKS)	\$699.00
ULTIMATE PC XT FOR YOUR AMIGA - PC COLT	\$799.00
BIG BLUE AMIGA (Now in stock) GREAT !!	\$HERE
KURTA GRAPHIC TABLET	\$CALL
PRISM COLOUR SPLITTER - THE BEST! - HI WAL!	\$499.00
SHARP COLOUR SCANNER JX-100 (FLAT BED)	\$CALL
VIDI-AMIGA FRAME GRABBER	\$329.00
CANON STILL VIDEO CAMERA	\$CALL
CANON WIDE ANGLE LENS - NEW	\$110.00
COMMODORE A2300 INTERNAL GENLOCK	\$599.00
NERIKI DESKTOP GENLOCK (Y/C)	\$1199.00
VIDTEK SCANLOCK GENLOCK (Y/C)	\$CALL
CITIZEN 200-GX 9 PIN COLOUR PRINTER WITH CABLE	\$475.00
CITIZEN 5800 9 PIN B/W PRINTER WITH CABLE	\$375.00
CITIZEN GSX-140 24 PIN COLOUR PRINTER	\$799.00
COMMODORE MPS 1230 9 PIN B/W	\$299.00
COMMODORE MPS1280 136 COL	\$350.00
HP DESKJET 300DP1 LASER QUALITY B/W	\$1275.00
1.3 ROM CHIPS	\$29.95
DISK DRIVE EXTENSION CABLE	\$29.95
DIGIVIEW SWITCH BOX & CABLES	\$69.95
1084S MONITOR EXTENSION CABLE	\$29.95
JOYSTICK EXTENSION CABLE	\$10.95
MITY MOUSE JOY/MOUSE SWITCH BOX	\$49.95
STEREO/MONITOR SWITCH BOX	\$29.95
HARRIS HI-TEK ANTI-GLARE SCREENS	\$39.95
THE ART DEPARTMENT	\$129.95
NEW PAL FRAMEGRABBER	\$CALL

QTY	DESCRIPTION	PRICE
TOTAL =		

AUTHORISED
EDUCATION DEALER

THE HARD DISK CAFE

Getting into Discovery

by Blatz

- *DISCOVER* v.t. obtain sight or knowledge of.

Discovery noun.

In the Oxford dictionary, Discovery gets a mention - just another word. Well somehow that definition may fade into obscurity and even become anachronistic!

Certainly Telecom's Discovery allows you to "obtain sight or knowledge of", just as conventional explorers did with the unknown frontiers, scientists have for centuries pursued baffling secrets of our physical and biological surroundings, and many others have sought answers to challenges. In all those cases, though, the Discovery implied the capture, or revelation of the unknown, period. Telecom's Discovery turns that implication on its head - here is the way for you "to obtain sight or knowledge of" known information. Mountains of it, at your fingertips!

The latest Discovery magazine (Issue 3.) lists over 1,000 search selections covering nearly 400 topics. I don't intend to delve any further into the vast possibilities the databases offer, but rather focus on what you can accomplish in the messaging system.

The Discovery 80 messaging system is based on the TELEMAIL application

which runs on tandem nonstop mainframes. Here you can not only reach other Discovery users, but you can use the system to deliver FAXES and TELEXES, not to mention the users of other electronic mail systems.

Using Discovery 80's online facilities you can type in your message, or using a simple text editor or WP you can prepare your text before the actual Discovery SESSION, during which you would use the "FILE UPLOAD" facility of your Communications Program (watch the new BYTEMoves column for more detailed explanations of terms used here) to enter the body of your message. This latter method is especially recommended for lengthy texts for two main reasons:

1. It's CHEAPER!

2. The on-line Discovery 80 editor, while extremely powerful in certain ways is not the most easily mastered editor.

The second reason was included purely for the benefit of those for whom money is no object!

For those who are really intensive users of the messaging service there is also a BATCH facility which supports the off-line preparation of SEVERAL messages, including their envelopes, for batch uploading and subsequent transmission.

But there's more!, binary files can also be included in your message! This is es-

pecially convenient and economical where you need to broadcast the file and message to many recipients! Instead of having to arrange individual file transfers say, ten times, you simply place the data on the Discovery messaging system, addressed to the recipients who can then collect it at their leisure (and simultaneously! try doing that with the "conventional" method).

A Bit of Detail

I won't go into the actual keystrokes involved to get to the messaging service on Discovery 80, rather I'll deal with specific commands relating to three main areas of usage in the message environment.

I will assume that most readers aren't Discovery users, but the details provided will convey to the majority what can be done and the relative simplicity involved; those who are actual users will no doubt find the details ultimately useful. The areas I'll cover are HELP, SCAN, and READ.

HELP (and a bit on SYSTEM PROMPTS)

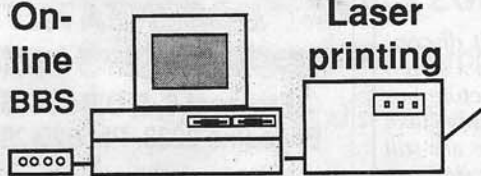
To users of the messaging service the following prompt is the indication that they can enter a COMMAND.....

Command?

For first time, or novice, users the most important response to remember at

AMIGA BUREAU

On-line
BBS



Laser
printing

Desktop Utilities

- 300dpi postscript laser & colour separations
- Amiga software distribution & support
- File conversions Amiga/IBM/Mac/Atari/C64
- BBS for prices, news, files; up to 9600 baud
- DTP, graphic art & scanning services
- Major Amiga packages supported

Desktop Publishing - File Transfers - Software

Australian distributors - RRP prices inc. tax - ask your dealer or call us

Consultron

CrossDOS 4.0 new version \$60 The MS-DOS & ST file system for the Amiga. Access disks directly from Amiga applications & utilities.

CMF Software

Contact \$60 Memory-resident contacts manager: phone dialling, address printing (incl. PostScript), clipboard support & A-Rexx port. CalcKey \$30 Memory-resident calculator; Type facility to send results directly to your application; has binary, hex, boolean, square, sqrt etc.

ASDG

Professional Scanlab \$1400 interface card, cable & software for Sharp high resolution colour scanner.

Dual Serial Board \$355 connect & use 2+1 serial devices at once.

RESEP 24-bit colour for PPage \$80.

Facc II disk accelerator \$45.

Cygnus Ed fast text editor \$135.

The Art Department \$120. Fast 24-bit; loader modules also in stock.

PO Box 3053 Manuka ACT 2603

Message Line: 06 - 239 6658

Bulletin Board: 06 - 239 6659

Facsimile: 06 - 239 6619

For details and prices call our BBS or ask for our leaflet. We are on line most hours / 7 days. Dealer enquiries welcome.

this prompt is simply....

?<ENTER>

which will present a screenful of valid commands. If help is required on a particular command, then a response...

? SCAN<ENTER>

will present several screens of good guidance on the use of the SCAN command, each screenful allowing departure from the HELP facility. (Any other valid COMMAND can be used in place of SCAN). COMMANDS have a GLOBAL effect and most therefore have ARGUMENTS.

Another prompt which appears on the system is:

Action?

This prompt always follows the text of a message.

Again HELP is available, this time listing the various valid responses which can be used here. ACTIONS only affect the MESSAGE which the Action? prompt follows and therefore ARGUMENTS are NOT MANDATORY, however in some instances are necessary.

SCAN

When mail is sent to a Discovery 80 user, it is captured in his MAILBOX. To see the contents of one's MAILBOX, SCAN at the Command? prompt will make the system reveal messages which have been received but not yet READ. The display produced is called a SCAN TABLE which sets out the message sequence number, and details about the date and time it was received, where it originated from, the SUBJECT matter (as specified by the SENDER), and how long the message is in LINES. The SCAN TABLE will also indicate what, if any, SEND OPTIONS, have been incorporated in the message (more on this later).

The SCAN Command also allows retrieval of other messages which have been FILED or WORKSPACES which have been SAVED. These variants will be discussed later. For now we will consider SCAN's effect on new mail only.

If you have a certain notoriety or other attractive attribute which results in your receipt of large amounts of mail, the SCAN Command will pause at every 24 lines before proceeding to display more message info. The use of the SCAN Command has no effect on the messages or their status; if, after displaying a SCAN table you wish to display it again, a further invocation of SCAN will re-display the details. (At this stage Discovery 80 us-

KICKBOARD

Kickstart™ version conversion at the flick of a switch! From 1.2 to 1.3 for A500 & A2000 on one plug in circuit board ready for you to fit it yourself, with easy instructions. (Kickstart ROMs are not included.) 12 month warranty.

Kickboard was designed and manufactured exclusively to suit A500 & A2000 allowing the software user greater options of use.

Bankcard - Visa - Mastercard. Post add \$2.40

KICKBOARD ----- \$37.50

Unitech Electronics Pty. Ltd.

10AM - 6PM Mon. - Fri.

Tel: 02-603-4318

Fax: 02-603-8685

Independent repairs to Commodore products.

Dealer inquiries welcome.

What is Discovery?

Discovery is a service which is comprised of a number of quite powerful components:

➔ *A VIDEOTEX SERVICE (formerly VIATEL) which in itself is a very comprehensive system, using the Prestel format to present betting, telebanking, teleshopping, interactive games etc.*

➔ *gateways to other database services.*

➔ *ASCII messaging/electronic mail system.*

What is impressive is the way all these facilities have been brought together into one focal service which allows the user to move between technically incompatible systems during a single session. While its fair to say the jury is still out considering its final opinion on the "front-end" structure, it would be unkind, even unfair, to the Discovery people not to acknowledge the cleverness of this initiative.

Furthermore, while it's a bit disconcerting to logon (especially with a script) only to find the "front-end" structure has been altered, one can possibly take heart that the Discovery people are still hard at work "fine-tuning" their system - but, please don't forget your users!

You have a prominent front page where reference to such changes must be made. I've heard the suggestion that the Discovery people ought to learn from some of the public bulletin board systems, and their user interfaces.

I can only recommend that any Discovery users reading this, who empathise with the situation and the suggestion, direct their requests "To: ADMIN" on Discovery 80.

ers may care to advise me of the difference between the first and second SCAN tables - sender of the first message I receive gets instant microSTAR status; name in PAU, name on the AMIGA.FORUM BB, name on my infoline, maybe even a tangible reward. Check end of this article for address details.)

READ

This Command allows the full message contents to be revealed. All the messages in the current SCAN TABLE will be presented. If desired, a specific message only, or a number of selected messages may be presented by including the sequence number(s) as the argument to the READ Command? As mentioned earlier, the Action? prompt follows each message. To move to the next message simply respond with <ENTER>. Options available at the Action? prompt will be discussed in a later article.

Just from the above overview you can appreciate that this system has immense capability, and I've only covered 2 of the 8 "BASIC" Commands!

In future articles I'll delve further into this messaging system's features, capabilities, and applications.

To get my eyes on your words, send letters to: BLATZ, C/- P.O. BOX 289, Campbelltown, S.A. 5074 OR on Discovery 80 simply type BLATZ in the To: field of your message.

If you'd like to keep in touch on the 'phone with my news and views, simply call the BLATZ-LINE on 0055 23281 (22c per 22sec's. - max.).

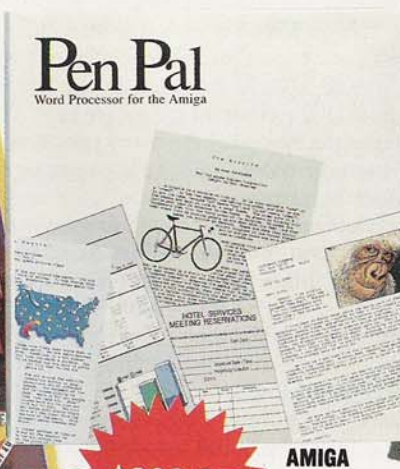
ROSENEATH COMPUTERS P/L

**Freeport 6, P.O Box 506
Engadine 2233. Ph: 520-2933**

Now Available, the Winter Catalogue-on-a-disk for the Amiga with over 1,000 items for the Amiga including Modems, Monitors, Hard Drives & Software. Send \$3.00 for the Disk or get it free with any order over \$50.00. The Disk can be updated for free anytime.

We accept payment by Bankcard, Mastercard & Amex.

SUPER SOFTWARE



dataflow

Bringing you the Best!!

Available from these dealers in your state: **NSW** — Computer Spot: Burwood, Charlestown, Chatswood, Hurstville, Liverpool, North Sydney, Parramatta, Penrith, & Sydney; and Mail Order: Rydalmere. **QLD** — United Computers: Ashmore, Bundamba, East Brisbane, Stafford & Underwood. **VIC** — Maxwell's Office Equipment: Abbotsford. **W.A.** — Computer Corner: Maddington. And from all quality Dataflow dealers.

BBS Etiquette

by Mel North

Keeping on the good side of your friendly local SYSOP is important. Keeping in good with other users also helps. Here's a guideline to what to do and not to do to make your stay a welcome one next time you call a Bulletin Board in your area.

1. Don't habitually hang up on a system. Every Sysop is aware that accidental disconnections happen once in a while but we do tend to get annoyed with people who hang up every single time they call because they are either too lazy to terminate properly or they labour under the mistaken assumption that the 10 seconds they save online is going to significantly alter their phone bill. "Call Waiting" is not an acceptable excuse for long. If you have it and intend to use the line to call BBS systems, you should either have it disconnected or find some other way to circumvent it.

2. Don't do dumb things like leave yourself a message that says "Just testing to see if this thing works". Where do you think all those other messages came from if it didn't work? Also, don't leave whiney messages that say "Please leave me a message". If ever there was a person to ignore, it's the one who begs someone to leave him a message. If you want to get messages, start by reading the ones that are already online and getting involved in the conversations that exist.

3. Don't use the local equivalent of a chat command unless you really have some clear cut notion of what you want to say and why. Almost any Sysop is more than happy to answer questions or offer help concerning his system. Unfortunately, because about 85% of the people who call want to chat and about 99% of those people have absolutely nothing to say besides "How old are you?" or something equally irrelevant - fewer Sysops even bother answering their pagers every day.

4. When you are offered a place to leave comments when exiting a system,

don't try to use this area to ask the Sysop questions. It is very rude to the other callers to expect the Sysop to carry on a half visible conversation with someone.

If you have a question or statement to make and expect the Sysop to respond to it, it should always be made in the section where all the other messages are kept. This allows the Sysop to help many people with the same problem with the least amount of effort on his part.

5. Before you log on with your favourite pseudonym, make sure that handles are allowed. Most Sysops don't want people using handles on the system. There is not enough room for them, and they get silly games of one-upmanship started, it is much nicer to deal with a person on a personal basis. Last but not least, everyone should be willing to take full responsibility for his actions or comments instead of slinging mud from behind a phoney name.

Also when signing on, why not sign on just like you would introduce yourself in your own society? How many of you usually introduce yourselves as Joe W Smutz the 3rd or 4th?

6. Take the time to log on properly. There is no such place as RIV, HB, ANA or any of a thousand other abbreviations people use instead of their proper city. You may think that everyone knows what Sunshine VIC is supposed to mean, but every BBS has people calling from all around the country and I assure you that someone from Yeppoon has no idea what you're talking about.

7. Don't go out of your way to make rude observations like "Boy, this system is slow". Every BBS is a tradeoff of features. You can generally assume that if someone is running a particular brand of software, that he is either happy with it or he'll decide to find another system he likes better. It does nobody any good when you make comments about something that you perceive to be a flaw when it is running the way the Sysop wants it to.

Constructive criticism is somewhat more welcome. If you have an alternative method that seems to make good sense then run it up the flagpole.

8. When leaving messages, stop and ask yourself whether it is necessary to make it private. Unless there is some particular reason that everyone shouldn't know what you're saying, don't make it private. We don't call them PUBLIC bulletin boards for nothing. It's very irritating to other callers when there are huge blank spots in the messages that they can't read and it stifles

interaction between callers.

9. If your favorite BBS has a time limit, observe it. If it doesn't, set a limit for yourself and abide by it instead. Don't tie up a system until the point where the Sysop has to ask you to log off - remember, there are other callers trying to get on the board. Especially don't make a lot of transfers of large files during the busiest hours for the board you're using.

10. Don't log on to a system as a new user and run right to the other numbers list. There is probably very little that's more annoying to any Sysop than to have his board completely passed over by you on your way to another board.

11. Have the common courtesy to pay attention to what passes in front of your eyes. When a BBS displays your name and asks "Is this you?", don't say yes when you can see perfectly well that it is misspelled.

Also, don't start asking questions about simple operation of a system until you have thoroughly read all of the instructions that are available to you. I assure you that it isn't any fun to answer a question for the thousandth time when the answer is prominently displayed in the system bulletins or instructions. Use some common sense when you ask your questions. The person who said "There's no such thing as a stupid question" obviously never operated a BBS.

Don't go out of your way to make rude observations like "Boy, this system is slow".

12. Don't be personally abusive. It doesn't matter whether you like a Sysop or think he's a jerk. The fact remains that he has a large investment in making his computer available, usually out of the goodness of his heart. If you don't like a Sysop or his system, just remember that you can change the channel any time you want. Besides, whether you are aware of it or not, if you make yourself enough of an annoyance to any Sysop, he can take the time to trace you down and make your life, or that of your parents, miserable.

13. Keep firmly in mind that you are a guest on any BBS you happen to call. Don't think of logging on as one of your basic

human rights.

Every person that has ever put a computer system online for the use of other people has spent a lot of time and money to do so. While he doesn't expect nonstop pats on the back, it seems reasonable that he should at least be able to expect fair treatment from his callers. This includes following any of the rules for system use he has laid out without grumping about it.

Every Sysop has his own idea of how he wants his system to be run. It is really none of your business why he wants to run it the way he does. Your business is to either abide by what he says, or call some other BBS where you feel that you can obey the rules. A bit of common sense and courtesy can make all the difference. □

Professional Amiga User MAGAZINE

September/October issue out now!

\$5.95 from your newsagent or dealer
In case of difficulty ring (02) 398 5111

Amiga 500 Turbo XT IBM EMULATOR

KCS Power PC Board Available Now

Look at these features:

- includes 1 Meg Amiga Ram + clock (value \$300)
- supports all Amiga in/outputs
- 3.3 times faster than XT Bridgeboard
- includes MS DOS 4.01 + shell and GW Basic
- free software updates
- 704K memory in MS DOS mode
- installs in 30 seconds!

Phone now for a detailed specification sheet
and the location of your nearest dealer

Official Distributor for KCS
Fonhof Computer Supplies

64 Cross Street, Baulkham Hills NSW 2153
Phone (02) 639 7718 Fax (02) 639 5995



NEW RELEASES

AMIGA SOFTWARE - EDUCATION

Suggested retail

KATIE'S FARM	59.95
MCGEE	59.95
SESAME STREET TRI-PACK	79.95

AMIGA SOFTWARE - PRODUCTIVITY

3-D PROFESSIONAL	549.00
3-D TEXT ANIMATOR	79.95
ANIMATION STUDIO : Disney	249.00
BABY : MSS Spellchecker	49.95
INTERFONT	169.00
PAGESTREAM V2.0	359.00
PROMOTION for Videoscape	119.00
<i>Videoscape owners "Call" re upgrade offer</i>	
PROWRITE FRENCH DICTIONARY	49.95
PROWRITE GERMAN DICTIONARY	49.95

AMIGA SOFTWARE - LEISURE

ANARCHY	49.95
BANDIT KINGS OF ANCIENT CHINA	99.00
BATTLE MASTER	59.95
CASTLE MASTER	64.95
CHESS CHAMPION 2175	79.95
CODENAME ICEMAN	79.95
CORPORATION	59.95
DUCK TALES : Disney	69.95
F-16 FALCON MISSION DISK 2	54.95
FIGHTER BOMBER MISSION DISK	39.95
GENGHIS KHAN	99.00
LOOM	69.95
MIDNIGHT RESISTANCE	59.95
SEXTIMATES	69.95
SHADOW OF THE BEAST II (W/T-Shirt)	79.95
SUPER GAMES PACK: Jailbreak,	49.95
<i>Deathbots and Byteman</i>	
TREASURE TRAP	49.95
WINGS	69.95

Available at selected Amiga Software Dealers.

Distributed and Supported by:

Computermate Products (Australia) P/L.

P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080

Telephone: (02) 457 8388 Fax: (02) 457 8739

Technical Support: (02) 457 8548

A quick look at Hayes (AT) Commands

by Tim Strachan

Below is a list of the AT commands, the common standard for telecommunications with modems. Knowledge of these commands will make life a lot easier as you try to get on to BBS systems (Bulletin Boards) or communicate via modem with friends. These commands can be typed directly into the screen of your Communications program. I've put some examples in below some of the trickier commands. "Carriage return" means "Hit the Return or Enter key" where it appears below.

Dialling a BBS

When you want to dial a BBS you just enter the phone number and all should be well... If you want to communicate with a friend, phone and arrange it first - you should both have the same Baud Rate chosen (from your Comms program's menu), and same number of data bits (usually 8), stop bits (1), and parity (usually none or N). Hence the 8N1 you see bandied about. Then one of you gets into "auto-answer" mode (by entering on your command line the command ATSO=1 if you want the modem to answer after 1 ring), and the other rings the number, with one of the AT commands, ie ATDP 1234567 or whatever). You can also switch from voice mode to Modem if you want, as described below.

When you connect, you should see CONNECT then the baud rate on the screen. And off you go - type dumb messages to each other, or upload/download files, or whatever. If you "upload" a file to your friend, warn him, and decide which "transfer protocol" you'll both use - XMODEM, ZMODEM (the most reliable and one of the fastest, though not all comms programs have it), etc. Then you select "Send File" or something similar, while your friend selects "receive file" or the equivalent, at his end.

Control Commands

AT Attention prefix; precedes all commands except Repeat and Escape, ie, the two control commands directly below.

- A/ Repeat last command (A/ is not followed by carriage return). This is very useful for re-dialling on the command line.
- +++ Escape; terminates on-line mode and enters command mode; this command must be preceded and succeeded by a one second pause and is not followed by a carriage return.

Dialling Commands (must be preceded by AT)

D Dial: this command is followed by sub-commands that control the dialling mode (below) and then the phone number. The sub-commands are:

- P Set the Dialling Mode to Pulse (ie, the old-fashioned rotary dialling, as distinct from Tone below)
- T Set the Dialling Mode to Tone (much faster and more reliable - most telephone exchanges are changing to Tone these days. It's digital, man. So to dial Megadisc you'd enter: ATDT or ATDP 029593692. Note that it doesn't matter if you leave spaces in the command.)
- , Pause for S8 seconds (can be changed by changing the

- S-Registers - the default is 2 sec).
- ! Flash, go On Hook for 1/2 seconds
- / Wait for 1/8 second
- @ Wait for 5 seconds of silence
- W Wait for second dial tone
- ; Return to Command State after dialling
- R Reverse mode; switch to Answer Mode after dialling

The sub-commands can be mixed with the telephone number, so that complex dial and wait command sequences can be achieved. Alternatively, if just ATD followed by carriage return is entered, the modem will assume the connection has already been made manually and will connect directly in originate mode.

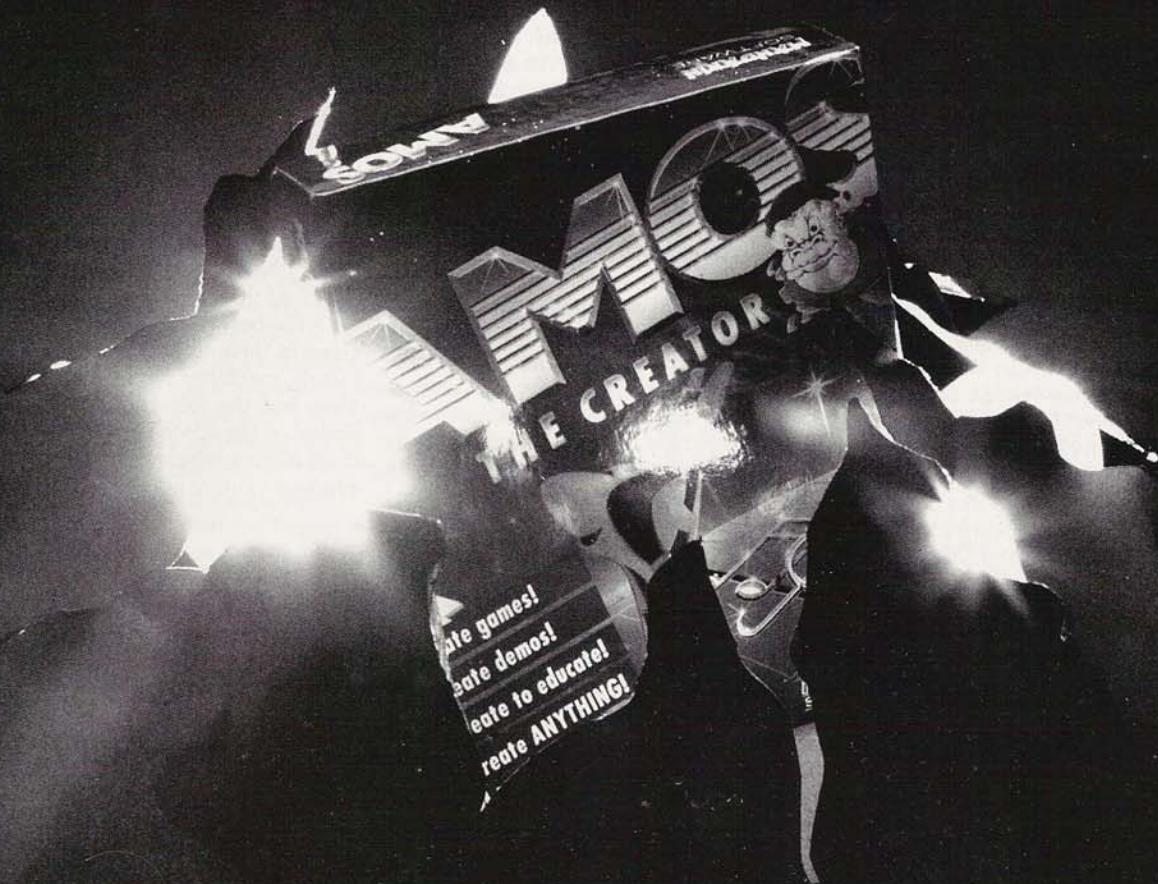
Other Commands

- A Answer call immediately w/o waiting for a Ring; for voice to modem call
- C0 Transmit Carrier Off
- *C1 Transmit Carrier On
- E0 Disable Command Character Echo
- E1 Enable Command Character Echo
- F0 Enable On-Line Echo (Half Duplex)
- *F1 Disable On-Line Echo (Full Duplex)
- H0 Go On hook, i.e. hang up (or simply ATH)
- H1 Off hook
- I0 Request product ID Code (130)
- I1 Request firmware revision number
- I2 Test internal memory
- L1 (or LO) Low speaker volume
- *L2 Medium speaker volume
- L3 High speaker volume
- M0 Speaker always off
- *M1 Speaker on until Carrier detected
- M2 Speaker always on
- 00 Enter On-Line State
- *01 Disable Remote digital loopback
- 02 Enable Remote digital loopback
- Q0 Enable display of Result Codes
- Q1 Disable display of Result Codes
- Sr? Display current value of register r
- Sr=n Set register r to the value n [eg, ATSO=2 means "auto-answer after 2 rings."]
- V0 Result Codes as digits
- V1 Result Codes as words
- *X0 Use Basic Result Codes
- X1 Use Extended Result Codes (ERC)
- X2 ERC + Dial Tone detection
- X3 ERC + Busy detection
- X4 ERC + Dial, Busy detect, X2 & X3
- *Y0 Disable Long space disconnect
- Y1 Enable Long space disconnect
- Z Reset all parameters to defaults

Notes:

1. Power On or Z Command reset values are indicated by " * "
2. Commands that are followed by a 0 can have the 0 omitted.
3. Often when you're typing messages and hitting RETURN, you'll find that you don't move down a line, which can be a bit messy. To do this simply press CTRL-J.

EXPRESS YOURSELF



Australian Amiga users are taking to AMOS like a duck to water. Never in the brief history of the Amiga has a programming language created such a ground swell of interest as AMOS. People who had not given a second thought to writing their own programs before have been amazed by the powerful array of commands in AMOS and by how simple they are to use.

With AMOS, you have full control of the Amigas hardware. There is no better, or easier to use language for music, graphics, sound or animation. Whether you're a complete novice or an experienced programmer, AMOS gives you the potential to create the game of your dreams.

AMOS is not, however, just for games. It has sophisticated data handling, full control over Input/Output ports, comprehensive mathematical functions and amazing logic controls. Using AMOS you can develop a database, structure a spreadsheet, work on a word processor or just cut loose and create the mega shoot-em-up to end all mega shoot-em-ups.

Full technical support is available through Pactronics to registered users, and for that special help, the Australian AMOS Users Club has been formed as a common forum to aid development of AMOS Programs.

TECHNICAL SUPPORT FROM PACTRONICS AND FROM THE AUSTRALIAN AMOS USERS CLUB IS ONLY AVAILABLE TO REGISTERED MEMBERS. PLEASE CHECK INSIDE THE PACKAGE FOR A REGISTRATION FORM PRIOR TO PURCHASE.

Available From:

Computer Spot (All Branches) Grace Bros., Myer, Harvey Norman, Harris Scarfe, Maxwells Office Equipment, Midi Mouse Computers and all good computer retailers.

 **Pactronics**
"The user friendly company"

For your nearest retailer please contact:

N.S.W.: Pactronics Pty Ltd, 98 Carnarvon Street, Silverwater (02) 748 4700
VICTORIA: Pactronics Pty Ltd, 51-55 Johnston Street, Fitzroy (03) 419 4644
QUEENSLAND: Pactronics Pty Ltd, 12 Stratton St, Newstead 4006 (07) 854 1982
SOUTH AUSTRALIA: Contact N.S.W. or Victoria Office
WESTERN AUSTRALIA: Pactronics Unit 13, 113 High Rd, Willetton 6155 (09) 354 1122
TASMANIA: ESP Marketing, 52 Elphinstone Rd, Mt Stuart 7000 (002) 78 1606
NEW ZEALAND: Micro Dealer NZ Ltd., 60 Terakau Drive, Palupanga, Auckland. 274 0757

Letters EDITOR to the

Canon ION Camera Disks

Dear Ed,

Thank you very much for doing the story on the Canon ION camera, but you didn't say anything about the possibilities of there being an Amiga compatible disk drive that could read the disks and dump them directly to screen.

I recently bought an Intel 386 based IBM compatible. I would like to know whether there is any software to connect the Amiga as a slave to the 386. I realise that the use of the serial ports in transfer of ASCII files is readily available with a cheap lead, but I am looking for something that can transfer graphics between the two.

An idea I had while reading through one of your issues is that you don't state whether a game is available on IBM format in your game reviews. To do this would greatly increase the number of readers of this great magazine. I'm not suggesting that you make any major changes to the mag, just that, you having the best games reviews in Australia, you broaden your horizons a little. Furthermore, something I would like to see in more IBM games reviews, a statement of the types of graphics formats available ie: CGA, EGA, VGA and only state VGA, if, as in *King's Quest IV* they are true 800x600 graphics, with more than 16 colours. I'm sure such changes would be a greatly appreciated by the computing public.

Alastair Edginton
Mitcham, Vic

Editor: Graphics can be transferred using GIF (Graphics Interchange Format).

The files would be best swapped using CROSS-DOS to READ/WRITE 720k 3 1/2" DOS disks in your Amiga. There is no easy hook-up yet.

The Canon stores still video images not digital info - so you can only get them into a computer using a frame-grabber or digitiser.

Switch to MS-DOS?

Dear Andrew,

I feel that I must write this letter to inform your readers of my visit to the PC 90 Exhibition in Melbourne. I eagerly went along to the show, paid my hard earned \$10 entrance fee then rushed through the door with baited breath. Being a dedicated Commodore user since my first Vic 20, C64, and now an Amiga I went in search of their stand. I went past

stands displaying Atari, Apple, Amstrads and every other PC with names from A to Z. I searched high and low, every nook and cranny, but to no avail, Commodore were not to be found. Everywhere I went I was asked to look at new products, but when I asked were they compatible with the Amiga, I was given a look reserved for someone with two heads. After this bad experience, I will seriously think of selling my Amiga and entering the MS-DOS world, where hardware is nearly half the cost. And I would not be treated like an outcast, which Commodore seem to think we are after we have paid out our hard earned dollars. In closing I think Commodore should be ashamed for not showing at the PC 90 Exhibition.

Many thanks for your great magazine over the past years. It has been value for money.

P.R. Morris.
Collingwood Vic

Editor: Hardware at half the price? Maybe - but it's only half as interesting! The Australian Amiga Users Association held an excellent Amiga Expo in Sydney recently which was a big success. Someone in Melbourne should do the same.

Commodore commitment in question

Dear Sir,

I am writing to comment on Commodore's full page advertisement on Education in the July issue of your magazine. The advert begins by asking "Who wants to be at your school so much...?" and proclaims that Commodore is "Totally committed to Education". My experience as computer teacher at one of the largest Primary Schools in WA (our largest State) is that Commodore are all talk and no action. My school has been attempting to get assistance from Commodore to

start using Amigas in our computer centre. Despite many months of writing letters, all we have received is a rejection.

As the Amiga is not yet used in schools in WA, and our Education Department's computer tender is currently up for renewal, I am amazed at Commodore's incredible lack of interest in both my school, and our State as an Educational Computing market. Virtually every week I receive mail from other computer manufacturers offering assistance in various ways to enable our school to install their particular machines. The presentation and professionalism of these offers is outstanding. From Commodore?...Nothing!

I fear that our schools will not end up with the best educational computing machine in their classrooms, rather they will install machines from companies who have had the foresight to realise the potential of the school market and have put their money where their mouth is. Commodore - you're going to blow it again!

John Stone
Murdoch WA

Buy a Bridgeboard?

Dear Andrew,

Firstly, congratulations on a great magazine, I never miss it. Secondly, as an Amiga 2000 user I am very pleased with my machine and its capabilities. My enthusiasm seems to have rubbed off onto three of my friends here at work who are thinking of buying computers for home. All of them have asked the question "is it IBM compatible?" and I have informed them of the option of buying a bridgeboard. As I have never used a bridgeboard myself, what I would like to know is if they really DO work and if so, how effectively. Will an AT bridgeboard run all the programs that an AT PC will or are there limitations, and in your opinion is a bridgeboard a better alternative for an Amiga owner than buying a second computer.

David Marsh
Mount Druitt, NSW

Editor: Bridgeboards do work well - look carefully at the price compared to a stand alone TURBO-XT! Compatibility is very good, only a few very unusual programs don't work - the greatest limitation is the lack of speed.





SERIES II

Over 900KB/sec transfer rate on a standard AMIGA 2000. 1.5 MB/sec transfer rate with a 68030 accelerator.



MICROLAB

COMPUTER CENTRE

PH: (03) 670 1533
FAX: 602 4776

SERIES II A2000

40Q MB Hard Disk + 8MB
RAM Card (0mb)

\$1,295

SERIES II A2000

40Q MB Hard Disk Card **\$1,189**

SERIES II A2000

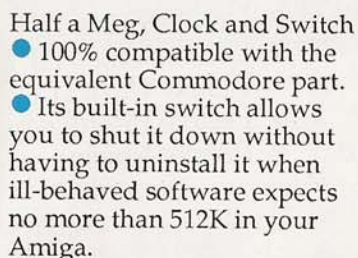
80 MB Hard Disk Card **\$1,395**

SERIES II A500

40Q MB Hard Disk + 8MB
RAM all in a new slim unit

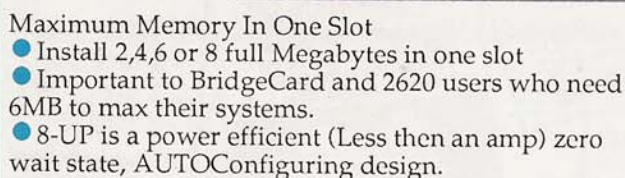
\$1,395

MICROBOTICS M501-S



\$159

MICROBOTICS 8-UP



with 2 MB \$595

AUDIO ENGINEER



- MultiLoop facility - like a digital sequencer
 - Compression of sample files
 - Stereo oscilloscope display
 - Echo, delay and flange effects in real-time
 - Hand draw wave forms
 - Special effects
 - Use up to 8MB RAM for sampling
 - A full screen CD player - load and play up to 20 Sound files
 - And many more features
- \$189**

\$189

Also available is Audio Engineer Plus. This includes a State-Of-The-Art stereo digitizer from GSOF.

\$399

12 MONTHS WARRANTY ON ALL PRODUCTS

ITEM	FORMAT	QTY	PRICE

Name: _____

Address: _____

State: _____

Postage

TOTAL

P/code: _____

Postage:
surface within Vic \$3.00 per item
surface outside Vic \$5.00 per item

Card type:

Card No:

Expiry: _____

Signature: _____

POST TO: PACIFIC MICROLAB, 277 ELIZABETH ST, MELBOURNE, VIC 3000

* AMIGA 3000

ORDER NOW!

- 2 meg ram
- 40 meg hard disk
- 68030 25mhz
- 32 bit bus
- 1.3 and 2.0 roms
- 1008 x 800 resolutions

Usually \$6195
Limited offer at...

\$5695



Monitor not included.
We'll BEAT any in stock
advertised price.

Free
Amiga Vision
\$299 value!

Computer
Spot



Layby NOW!
AVOID DISAPPOINTMENT

Popular hardware items become hard to keep in
stock towards Christmas time EVERY year!

3.5" floppy disk (10) \$12.95

TEST PILOT PACK



- Commodore 64
- 1541 Disk Drive
- Joystick
- 5 Games.

\$499

Amiga CD ROM
Coming Soon!

1084s stereo
monitor
LIMITED STOCK
\$449

AMIGA DELUXE SPECIAL!

- Deluxe Paint III
- Deluxe Video III
- Deluxe Print II
- Deluxe PhotoLab
- Deluxe Music

for only

\$99.95
each

Don't miss out! Limited Stock.



* AMIGA A590

A590 20 meg Hard Disk
with 2 meg ram option
the professional addition to the
growing Amiga 500 system...

HOT!! \$699

* Commodore AMIGA

A500
DELUXE KIT
EXCLUSIVE
TO COMPUTER SPOT

- Amiga 500
- 1 meg of ram
- MaxiPlan Plus
- Deluxe Music
- Kindwords 2.0
- Info-File
- Fusion Paint
- Plus 2 games

\$1099

A500
STARTER KIT
LATEST VERSION

- Amiga 500
- TV modulator
- Kindwords 2.0
- Fusion Paint
- Interceptor
- Indiana Jones
- Kick Off
- Quality Games!

\$899



AVTEK 2400 bps
auto modem
\$399
12 mths warranty

Commodore
PC COLT
IBM PC
compatible
640K twin floppy
\$799

Citizen 200GX NEW

Latest Technology!
1990 breakthrough!
the fastest feature packed
9 pin colour printer on the
market! This is the BEST!
Suits IBM, Amiga, Atari...



\$499

2 YEARS WARRANTY!

A500 RAM

- 512K \$149
- 1 meg \$399
- 2 meg \$549
- 4 meg \$869

all internally fitted

SEGA MASTER
SYSTEM
NOW AVAILABLE

\$139

Including free game

* GVP 3001

25 MHZ Accelerator Board
for Amiga 2000 owners

- 68030 processor
- 68882 math processor
- 4 meg 32 bit ram (expandable to 8 meg)
- AT Hard Disk controller

\$2995

Dreams are made of this!

Commodore PC40 Series III

- 1 meg RAM Fully Expandable
- Quality AT 286 12 MHz
- 3.5" 1.44 meg floppy disk drive
- MS-DOS 3.3
- 40 meg hard disk
- VGA card and monitor

\$2995

German Made

STATIONERY

- 900 sheets A4 quality tractor paper
- 500 sheets A4 quality tractor paper
- 3.5" diskette labels pack 100
- 5.25" floppy disks DSDD no frills
- 5.25" floppy disks DSDD Memorex
- 3.5" floppy disks DSDD no frills
- 3.5" floppy disks DSDD SKC
- 3.5" floppy disks DSDD Memorex
- 5.25" disk storage box 100
- 3.5" disk storage box 100

\$34.95
\$17.95
\$64.95
\$19.95
\$6.95
\$14.95
\$29.95
\$12.95
\$17.95
\$24.95
\$49.95
\$16.95
\$16.95

"AMOS" the new gamewriter language IN STOCK

"KDV-5" the professional Virus Control system \$24.95

* Free training tapes and games for noted specials

MAIL ORDER

Unit 3, Metro Centre,
38-46 South Street, Rydalmere, NSW 2116

Phone (02) **638 2897**

TOLL FREE (008) 252 130. FAX (02) 638 0793

Prices subject to change without notification

AMIGA SOFTWARE

ART

Deluxe Paint 2	Top art package	99.95
Deluxe Paint 3	The best art/animation package	99.95
Deluxe Paint 2	Posters and banners, supports colour	99.95
Day Paint 3	A high quality graphics editor	134.95
Digiview Gold 4	Voted best digitizer, new dyn. res.	299.00
Fantavision	Animation package	99.95
Introcad Plus	Quality 2d cad package	199.00
Pomate	Professional graphic editor	89.95
Printmaster Plus	Create calendars, posters, etc.	59.95
Sculpt Animate 4D	Ultimate 3d render/animate	899.00
TV Text Pro	Improved title with fonts	274.95
Video Scape 3D	3D animation pack	295.00
Title Page	Excellent character generator	299.00

ARCADE ACTION

Ant Heads	It's desert part II (needs original)	29.95
Anarchy	New action game	559.95
Days of Thunder	Movie hit racing game	CALL
Fire & Brimstone	New action hit	59.95
Fimbos Quest	Great maze game fun	59.95
Ghosts and Goblins	Classic arcade hit	49.95
Harley Davidson	Ride your hog, race your mates	69.95
Klax	Maze game arcade hit	49.95
Lombard Rally	Rally car races	59.95
Pinball Magic	Excellent pinball game	39.95
Planet X	Comic arcade action	49.95
Projectyle	Fast paced sci-fi sports game	49.95
Resolution 101	Fast paced 3D action game	59.95
Shadow of the Beast	High quality graphics	54.95
Skidz	3D bike riding fun	59.95
Sonic Boom	Scrolling shoot 'em up	59.95
Street Rod	Build and race hot rod cars	54.95
Super Cars	Great strategy car racing	54.95
Super Puffy's Saga	Excellent maze game	59.95
Teenage Mutant Ninja Turtles	Hit cartoon conversion	69.95
Tower of Babel	3D strategy epic	39.95
Toyettes	Crazy fun maze game	49.95
Turcan	Quality arcade hit	59.95
Vendetta	Arcade street fighting	59.95
Wings of Fury	Helicat car missions	69.95
X Out	Hot new shoot 'em up!	59.95
Zombi	Horror fun	59.95

ADVENTURE

Aquasaut	Underwater graphic adventure	59.95
Battleflesh II	Sci-fi role playing epic	69.95
Budokan	Superb new martial arts game	49.95
Castle Master	3D dungeon adventure	59.95
Champions of Krynn	New D&D role playing hit	59.95
Codenamed Iceman	Sierra thriller adventure	59.95
Dragons Breath	Serious D&D travels	79.95
Dragons of Flame	Latest D&D series	54.95
Drakkhen	Deep dungeon dwellers	59.95
Heroes Quest	Sierra adventure	59.95
Hound of Shadow	Old English detective adventure	49.95
Infestation	3D sci-fi adventure	59.95
It Came From The Desert	Latest Cinemaware release	59.95
Kings Quest 4	Sierra epic adventure	59.95
Kings Quest Pack of 3	Best adventure collection	79.95
Knights of Crystalion	Sci-fi adventure game	49.95
Leisure Suit Larry	Adults only adventure	59.95
Leisure Suit Larry 2	Looking for love	59.95
Leisure Suit Larry 3	Great adult 3D adventure	59.95
Manhunter San Francisco	Sierra sci-fi adventure	59.95
Onslaught	In the days of the warrior	59.95
Pirates	Fantastic adventure	59.95
Police Quest 2	Sierra police adventure	59.95
Pool of Radiance	Role playing D&D game	59.95
Romance of 3 Kingdoms	Epic sized adventure	109.95
Sir Fred	Role playing fun	59.95
Space Quest 3	Outer space sierra	59.95
Theme Park	Mystery adventure	59.95
Tunnels of Armageddon	3D sci-fi adventure	54.95
Unreal	Graphic based action adventure	59.95
Xenomorph	Sci-fi roleplaying adventure	59.95

BUSINESS

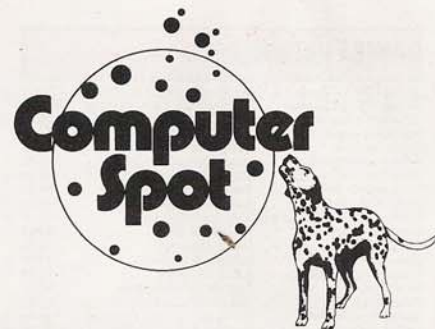
Accountant	Professional business system	495.00
Advantage	High speed power spread sheet	299.00
B E S T Accounting	Full accounting system	499.00
Day by Day	Home cash flow organizer	69.95
DG Calc	Quality spreadsheet	89.95
Easy Ledgers	Accounts payable and receivable	595.00
Excellence 2.0	Professional wordprocessor	299.00
Maxiplan Plus	Fully featured spreadsheet	195.00
Pagestream 2	State of the art DTP quality	399.00
Pen Pal	Wordprocessor and graphics	229.95
Professional Draw 2	Structured art designer	299.00
Professional Page	Quality dtp package	399.00
S B A Cash	Small bus. cash book	164.95
Scribble Platinum	Quality wordprocessor	99.95
Superbase Personal	Excellent database	69.95
Superbase Professional	Fully programmable version	329.00
System 3	Full business management	129.95
Top Form	Quality forms designer	134.95
Word Perfect 4.1	The ultimate word processor	499.00
Works Platinum	3 in 1 business pack	229.95

EDUCATIONAL

Amiga Logo	Educational programming	74.95
Decimal Dungeon	Educational junior high 5th	59.95
Discovery Maths	Educational fun	69.95
Discovery Spelling	Educational fun	44.95
First Shapes	Early learning	49.95
Fraction Action	Educational 5th grade and up	69.95
Funschool Series	Six games full of learning	44.95
Gold of Americas	Historical simulator	49.95
Intelligence	Quality typing tutor	49.95
Kid Talk	Quality educational software	49.95
Kids Collection	Educational fun	59.95
Kinderama	Educational preschool age	69.95
Match II	Match shapes and colours	49.95
Math A Magician	Maths educational	44.95
Math Talk	Quality educational	49.95
Math Talk Fractions	More on maths	69.95
Math Wizard	Maths fun	69.95
Mavis Beacon Teaches Typing	#1 typing tutor	69.95
Puzzle Story Book	Kiddies fun early learning	59.95
Read & Rhyme	Educational 5 to 10 yr olds	69.95
Read A Rama	Reading education	69.95
Rhyming Notebook	Children's fun	59.95
Sin City	Design and maintain model city	89.95
Spellbound	Quality spelling	59.95
Speller Bee	Quality spelling	44.95
Where in Europe is Carmen	Educational adventure	84.95
Where in USA is Carmen	Geography educational	84.95
Where in World is Carmen	Geography educational	84.95
World Atlas 2.0	Computerised world atlas	99.95

TOP 20 COMPUTER HITS

- Secret of the Silver Blades
- Arcade Champions Pack
- F29 Retaliator
- Their Finest Hour
- Amos
- Champions of Krynn
- Teenage Mutant Ninja Turtles
- Red Storm Rising
- Railroad Tycoon
- Sorcerian
- A10 Tank Killer
- Midwinter
- Resolution 101
- Unreal
- Turcan
- Shadow of the Beast II
- Street Rod
- Pagestream II
- Codename Iceman
- Pro Tennis



HOME

Fools Errand	Tarot card game and puzzles	59.95
Home Accounts	Balance all your bills	89.95
Kind Words	Quality wordpro/supers graphics	99.95
Personal Accounts Plus	Watch where the dollars go!	69.95
Publishers Choice	Beginners dtp package	199.95
Your Family Tree		94.95

MUSIC

Deluxe Music Construction Set	Composition editor	99.95
Music X	Quality midi and editing tool	299.95
Sonix	Music editor	99.95
Bars and Pipes	New music editing breakthrough!	CALL

SPORT

Grand International	Horse racing game	49.95
Greg Norman Shark Attack	Ultimate golf game	59.95
Italy 1990	Soccer supreme	59.95
Jack Nicklaus Golf	Partner 18 holes with Jack	59.95
Pro Tennis	Best tennis game seen	49.95
TV Sports Football	Football maniacs	69.95
Wide World Sports	18 fantastic sports events	49.95
Magic Johnson Basketball	Quality game	79.95
3D International Tennis	Fast paced, great sound	59.95
TV Sports Basketball	Great 3D sports action	69.95
TV Sports Basketball	Quality sports game	69.95
Kick Off 2	The nicest soccer game to play	59.95

SIMULATORS

Balance of Power	World politics simulator	59.95
Combo Racer	Fast paced sidecar racing	59.95
Cycle International Grand Prix	Fast paced racing	59.95
Distant Suns	Professional astronomy package	89.95
F16 Combat Pilot	The fighting simulator	54.95
F16 Falcon	Brilliant combat sim. 16 missions	59.95
F16 Falcon Mission Disk	More missions for F16	49.95
F19 Stealth Fighter	New from Microprose	CALL
F29 Retaliator	Superb combat simulator	59.95
FA18 Interceptor	Excellent combat simulator	49.95
Ferrari Formula 1	Car racing simulator	49.95
Fighter Bomber		49.95
Fighter Bomber Mission Disk		59.95
Flight Simulator 2	Professional simulation	79.95
Hunt for Red October	The game of the famous movie	49.95
RVF Honda	Motorbike racing	49.95
Their Finest Hour	WW2 dog fighting simulator	59.95

STRATEGY

Grand National	Horse racing and jumping	49.95
688 Attack Sub	Amazing sub battle simulator	49.95
Battle Chess	3D animated chess	69.95
Bloodwych	One or two player role playing	59.95
Chessmaster 2000	Best quality 3D chess ever!	54.95
Dragon Force	Combat team sci-fi	69.95
Hillstar	D&D strategy	49.95
Imperium	Plan and control the galaxy	59.95
Laser Squad	Combat team simulator	64.95
Midwinter	3D strategy game epic	79.95
Nuclear War	Crazy global war game	54.95
Omega	Design and test your own tank	59.95
Populous	Control the masses	49.95
Red Lightning	1990s war strategy	64.95
Red Storm Rising	Submarine war games	69.95
Shemman M4	Fantastic 3D tank game	49.95
Solitaire Royale	Compilation card games	49.95
Star Command	Deep space adventure	49.95
Trump Castle	Gambling compilation	49.95
Ultima 4	Heavy D&D strategy	79.95
Vegas Gambler	Collection of casino hits	54.95
War Head	3D space strategy	59.95

UTILITIES

A Talk 3	Complete professional comms pack	99.95
Amos	New programming language	129.95
Amos	Programming interface language	89.95
Audio Engineer	Quality sound editor	199.00
B A D	Floppy disk optimizer	84.95
Can Do	Create stand alone software via icons	229.95
Cross Dos	Read write msdos files	49.95
Devpac	Programmes assembly language	179.95
Digimate 3	H a m animation toolkit	44.95
Disk Master	High quality file utility	79.95
Dos 2 Dos	Convert IBM/Amiga files	79.95
GPTerm	Comm's with Viatel	99.95
KDV	Great new virus control package	24.95
Lattice C Development V5	C compiler	449.00
Mega Dos	Amiga dos tutorial	19.95
Megadisk	Vol. 2 thru to 17 available	19.95
Perfect Sound A500/2000	New version	219.95
Quarterback	Hard drive back up too	99.95
Superback	Hard disk backup	99.95
X Copy + Hardware	Backup your games	99.95

Prices subject to change without notification



AMIGA HARDWARE

40 meg SCSI h/d Quantum	Voice-coil, auto-park 11-18ms	749.00
80 meg SCSI h/d Quantum	Voice-coil, auto-park 11-18ms	1249.00
105 meg h/d Quantum	Voice-coil, auto-park 11-18ms	1429.00
81P Memory Board 2 meg ram	A2000 ram exp. board	899.00
A2000 2nd Drive	Suits Amiga 2000 internal	179.00
Amiga Emulator and Chip	Amiga Macintosh emulator	499.00
Amiga 2000 h/d cont. 2090	ST506 and SCSI controller	499.00
Amiga 500 RF Modulator	Connect Amiga to TV or video	59.95
Amiga Action Replay	Games hacker cartridge	199.00
Camera Hitachi HV720 with lens	Suits Amiga Digiview	599.00
Camera WV1410 with lens	For Digiview Amiga	599.00
Comidi Amiga	Quality Amiga midi	159.00
Comidi Mini	Budget midi interface	79.95
Computer Amiga 2000	A2000 CPU only	1795.00
Flicker Fixer	Requires multisync monitor	799.00
Future Sound A500	High quality sound digitizer	229.95
Genlock Rendale A8802	Quality genlock, suits all Amiga	599.00
Genlock Vidtech	Broadcast quality VHS/VHS	2295.00
Master Sound	Quality sound sampler and software	79.95
Modem Avtek Mega 1234	Quality 2400 baud modem	399.00
Monitor CBM 1084S	Stereo, suits Amiga, C64 and PC	449.00

Mouse Amiga Bus	The best Amiga mouse!!!	49.95
Mouse Naksha	High quality suit Amiga, PC	129.00
PC Emulator Bridge Board XT	Inc. 5.25" drive and 3.2 dos	799.00
PC Emulator Bridge Board AT	Inc. 5.25" 1.2 meg drive	1399.00
Philips Monitor (CM8833)	Stereo, 2 yrs warranty!	489.00
Printerface	Budget lo-res rgb monitor	399.00
RF302C Amiga Disk Drive	2nd parallel port for Amiga!!!	179.00
RF542C 5.25 Amiga Disk Drive	Slim external drive on/off switch	199.00
RM550C RAM Expansion 512K	Use all those old C64 disks!	249.00
Trump Card	Inc. battery backed-up clock	189.00
Trump Card A500	Quality SCSI controller	369.00
Trump Card Professional	Autoboot SCSI controller	495.00
Vidi Amiga	High speed SCSI controller	499.00
	Excellent b/w frame grabber Pal	399.00

PERIPHERALS

Genius Mouse Amiga	Quality replacement mouse	59.95
Joystick Bathandle	Heavy duty, super high quality	49.95
Joystick Slik Stik	Quality budget joystick	14.95
Joystick Tac 2	Quality product 2 yr warranty	49.95
Mouse 1352 PC 53	9 pin d type, Suits Amiga and PC	59.95
Python Turbo III Joystick	Suits Amiga/C64	44.95

Quickshot Joystick	Budget version	24.95
Star Cursor Joystick	Auzzie made 3 yr warranty	54.95
TV Tuner Philips AV7300	Turn your monitor into a TV	179.95
Utility Station	Printer monitor stand	34.95
Printer Stand 10"	Plastic coated metal with paper tray	29.95

PC HARDWARE

3.5 1.44 meg Floppy Drive	Internal PC drive	249.00
40 meg h/d XT ST250R Kit	For all PCs upgrade now!	579.95
5.25 Floppy Drive 360K	PC 360K drive	199.95
CBM CGA Monitor	Provides 4 colour PC CGA mode	449.00
CBM EGA Monitor + EGA Card	16 colour hi-res on your PC	CALL
VGA Monitor + VGA Card	256 colours on your PC!!!	899.00
Joystick Analog Plus IBM	Quality joystick	59.95
Joystick Analog Extra	Superb PC joystick	64.95
IBM Joystick	IBM joystick	54.95
Mouse GMF301 PC	Quality mouse and s/ware pack + mat	159.95
Genius PC Mouse	Serial mouse and software	89.95
Sound Blaster Card	Magnificent PC sound add-on!	399.00
Turtle Card	Joystick port for PC	44.95
Quickshot Game Pack	Joystick and games port card	59.95
Vidi PC	IBM PC frame grabber/digitizer	449.00

IBM SOFTWARE

ART AND GRAPHICS

Autodesk Animator	Professional graphics/animation	460.00
Autosketch	Structured graphics editor	289.95
Bannermania	Signs, banners, etc	69.95
Deluxe Paint 2 Enhanced	Quality graphics des. needs mouse	229.95
Fantavision	Graphics and animation	99.95
Looney Tunes Print Kit	Graphics and printing	29.95
Print Shop	Print cards, banners, signs	89.95
Print Shop Library	Additional graphics	54.95
Splash	Vga graphics editor	199.95

ARCADE

Days of Thunder	Movie, arcade hit	NEW
Death Track	3D racing action	69.95
Double Dragon 2	Arcade action	59.95
Ghosts and Goblins	Classic arcade fun	59.95
Harley Davidson	Motorbike simulator	59.95
Klax	Fun maze game	NEW
Lombard Rally	Rally car racing	69.95
Planet X	Comic hero game	59.95
Resolution 101	Fast paced 3D action	59.95
Shufflepuck Cafe	Air hockey game	59.95
Sky Chase	Fast 3D flight combat	59.95
Street Rod	Great hot rod racing fun	54.95
Stunt Car Racer	Superb 3D car racing	69.95
Teenage Mutant Ninja Turtles	The craze continues	69.95

ADVENTURE

Bad Blood	Role playing adventure	59.95
Castle Master	3D dungeon adventure	69.95
Centurion	Roman hero adventure	64.95
Champions of Krynn	Latest role playing D&D	54.95
Codename Icoman	Superb action adventure game	69.95
Colonel's Bequest	Epic adventure game	69.95
Conquest of Camelot	Superb sierra adventure	69.95
Crime Wave	Vga adventure game	69.95
David Wolf Secret Agent	Graphic adventure game	69.95
Die Hard	Movie action adventure	59.95
Dragon Wars	Dungeons and dragons	59.95
Dragons of Flame	Role playing epic	64.95
Drakkhen	Dragons and knights	79.95
Escape from Hell	Horror adventure	54.95
Heroes Quest	New sierra adventure	69.95
Heroes Quest 2	Part 2 of the sierra hit	NEW
Keys to Maramon	Role playing adventure	69.95
Kings Quest 4	Epic sierra adventure	69.95
Kings Quest Triple Pack	1, 2, 3 of the series	79.95
Leisure Suit Larry 2	Adult adventure	54.95
Leisure Suit Larry 3	A fine addition	59.95
Loom	Epic sized role playing great	69.95
Mega Traveller	Voted best sci-fi role playing	109.95
Mid Winter	3D sci-fi role playing	NEW
Might and Magic 2	Role playing adventure	54.95
Mines of Titan	3D sci-fi adventure	69.95
Nightmare on Elm St	New horror adventure	59.95
Pirates	Excellent role playing adventure	49.95
Police Quest 2	Sierra adventure	59.95
Romance of 3 Kingdoms	Epic sized role playing	109.95
Search for the Titanic	Ocean mystery game	49.95
Secret of the Silver Blades	Role playing hit	49.95
Sleeping Gods Lie	3D role playing quest	79.95
Sorcerian	Monster sized role playing epic	69.95
Space Quest 3	Sierra adventure	54.95
Star Trek 5	Movie adventure	69.95
Sword of Aragon	Dungeon quests never end	89.95
Sword of Samurai	Kung fu action	69.95
Tunnels of Amageddon	3D sci-fi adventure	54.95
Ultima 6	The deepest you can go!	84.95
Ultima Trilogy	1, 2, 3 in the series	79.95

BUSINESS

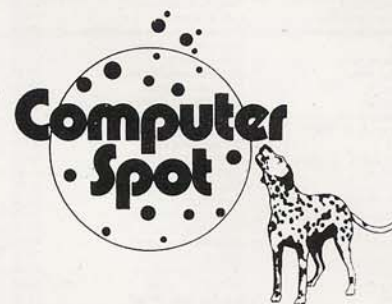
Attache 4	Accounting package	890.00
B.E.S.T. Accounting	Accounting	595.00
Data Manager	Simple quality database	59.95
Home Accounts	Bookkeeping package	89.95
Lotus 123	Powerful spreadsheet	995.00
Microsoft Word	Quality word processor	670.00
Mini Office Professional	Quality 4 in 1 business package	144.95
On Balance	Cash Book	89.95
Publish It	Quality desk top publishing	299.95
Publish It Lite	Budget dtp package	99.95
Swiftcalc	Quality spreadsheet	69.95
System 3	Complete small business package	129.95
Word Perfect 5.1	Professional wordprocessor	799.00
Word Writer	Quality word processor	79.95
Wordstar Professional	Word processing	670.00

EDUCATIONAL

Alge Blaster	Algebra skills	69.95
Family Feud	Family fun	39.95
Fools Errand	Witty puzzles and fun games	84.95
Funschool Series	Educational	49.95
Joshua's Reading Machine	Reading tutor	59.95
Kids Collection	Educational fun	59.95
Math and Me	Early learning maths	49.95
Math Blaster Mystery	Educational	69.95
Math Blaster Plus	Quality maths fun	69.95
Mavis Beacon Teaches Typing	Typing tutor	69.95
Once Upon A Time	Educational	69.95
Once Upon A Time 2	Educational	59.95
Playroom	Early learning skills	79.95
Puzzle Story Book	Educational	59.95
Rhyming Notebook	Word skills	59.95
Sim City	Design and control a city	89.95
Spell It	Early learning skills	69.95
Storyteller	Great kids stories & sound h/ware	144.95
StudyMate	Educational exams skills	84.95
Type	Typing tutor	59.95
Where in Europe is Carmen	Geography game	84.95
Where in Time is Carmen	Teaches history and geography	84.95
Where in USA is Carmen	Geography game	84.95
Where in World is Carmen	Geography game	84.95

SPORTS

Greg Norman Shark Attack	Golf simulator	59.95
Jack Nicklaus Golf	Golf simulator	54.95
Kick Off 2	Soccer hit game	59.95
PGA Tour Golf	High quality golf	64.95
Pro Tennis	Best tennis game seen!	49.95



3D Tennis	Fast paced tennis	NEW
TV Sports Basketball	3D sports hit	NEW
TV Sports Football	3D football simulator	54.95
Wide World Sports	18 great sports games	49.95

SIMULATIONS

Chuck Yeager's Flight Sim. 2	Flight simulator	69.95
Cycle Inter. Grand Prix	Motorcycle racing	59.95
F14 Tomcat	More fighter plane fun	NEW
F15 Strike Eagle 2	Combat simulator	69.95
F16 Combat	Combat simulator	59.95
F16 Falcon	Fighter plane simulator	69.95
F19 Stealth Fighter	Complex fighter simulator	109.95
F29 Retaliator	Fast paced combat game	NEW
Falcon AT	Quality lighter simulator	69.95
Fighter Bomber	Voted #1 combat simulator	69.95
Flight of the Intruder	VGA/EGA combat sim	69.95
Heat Wave Off Shore Boating	Boat racing	59.95
Hunt for Red October	The game of the famous movie	49.95
Indianapolis 500	Best car racing we've ever seen	64.95
LHX Attack Chopper	Helicopter combat	79.95
Sherman M4	3D tank simulator	49.95
UMS 2	Classic war games on battlefield	NEW
Vette	Street racing simulator	69.95
Wolfpack	Submarine war games	94.95

STRATEGY

A10 Tank Killer	Tank busters	69.95
Abrams Battle Tank	War strategy	64.95
Ancient Art of War	Historic strategy	79.95
Ancient Art of War at Sea	Historic strategy	79.95
Balance of Power 1990	Political simulator	69.95
Battle Chess	3D animated chess	64.95
Battletech	Sci-fi strategy	69.95
Budokan	Strategy action	64.95
Chessmaster 2100	3D animated chess	69.95
Curse of Azure Bonds	Role playing adventure	69.95
Gold of Americas	Historical adventure	39.95
Guns & Butter	High quality strategy	NEW
Hoyle's Book of Games	Card game compilation	54.95
Living Jigsaws	Jigsaw escapist kit	69.95
M1 Tank Platoon	War simulator	89.95
Mech Warrior	3D battle tech game	69.95
North & South	Quality war game fun	59.95
Nuclear War	Global conflict game	54.95
Omega	Design your own robot tank	54.95
Pool of Radiance	Role playing epic	64.95
Populous	Play god over the world	54.95
Railroad Tycoon	Business role playing epic	89.95
Solitaire Royale	Card games	69.95
Space Rogue	Space trading adventure	69.95
Starflight 2	Space strategy epic	54.95
Storm Across Europe	Quality war games	49.95
Their Finest Hour	Brilliant 3D air combat game	69.95
Tournament Bridge	Bridge game	89.95
Trump Castle	Collection of solitaire games	49.95
Vegas Gambler	Collection of casino hits	54.95
Xenomorph	3D space strategy	69.95

UTILITIES

Corefast	High quality hard disk backup	89.95
Dos RX	Hard disk utilities	64.95
Microsoft Quick C	Programming language	194.95
MS Dos 4.01	Dos upgrade	249.95
MS Windows V3.0	Great PC tool	229.95
Norton Commander 3.0	Quality PC tools	249.95
Supercom	Quality comms package	119.95
Swimwear	Pinup girls calendar maker	19.95
Turbo Pascal	Programming language	174.95
Xtree Pro Gold	Quality PC tool	229.95

Prices subject to change without notification

C64/128 SOFTWARE

Computer Spot

Unit 3, Metro Centre, 38-46 South St, Rydalmere, NSW 2116

TOLL FREE (008) 252 130

MAIL ORDER

Phone (02) 638 2897

AGC CREDIT LINE NOW AVAILABLE

Prices subject to change without notification

ART AND GRAPHICS

Artist 64	94.95
Looney Tunes Print Kit	29.95
Print Power	29.95
Print Shop	79.95

ARCADE ACTION

Chase HQ	39.95
Cosmi 21	39.95
Crack Down	39.95
Double Dragon 2	39.95
Fimbos Quest	39.95
Ghouls and Ghosts	39.95
Heros	39.95
Hot Rod	39.95
Milestones	29.95
Ninja Spirit	39.95
Ninja Warriors	39.95
Operation Thunderbolt	39.95
Pipe Mania	39.95
Rainbow Islands	39.95
Sonic Boom	39.95
Street Rod	44.95
Teenage Mutant Ninja Turtles	NEW
Turncan	39.95
Wonder Boy in Monster Land	39.95
X Men	39.95
X Out	39.95

ADVENTURE

Bard's Tale Trilogy	39.95
Castle Master	39.95
Champions of Krynn	54.95
Dragons of Flame	39.95
Might 'n' Magic	44.95
Pirates	49.95
Secrets of the Silver Blades	39.95

BUSINESS

Cosmi Top 20 Utilities	39.95
Data Manager 2	39.95
Fleet System 2+	69.95
Geos 2.0	59.95
Kwik Write	24.95
Mini Office 2	44.95
Paperclip Publisher	54.95
Superbase	54.95
Superscript	59.95
Swiftcalc	39.95
Word Writer 4	69.95

EDUCATIONAL

Alge Blaster	69.95
Family Feud	29.95
Funschool Series	24.95
Math Blaster	69.95
Mavis Beacon Teaches Typing	49.95
Numbers Count	19.95
Sim City	59.95
Type	39.95
Wheel of Fortune	29.95
Where in Europe is Carmen Sandiego	69.95
Where in USA is Carmen Sandiego	69.95
Where in World is Carmen Sandiego	69.95

SPORTS

Greg Norman	NEW
Italy 1990	39.95
3D Tennis	NEW
TV Sports Football	49.95
Wide World Sports	39.95
World Cup Compilation	49.95
Pro Tennis	49.95

SIMULATORS

Chuck Yeagers Flight Simulator	34.95
F14 Tomcat	44.95
F16 Combat Pilot	49.95
F18 Hornet	44.95
Ferrari Formula 1	39.95

Fighter Bomber	44.95
Flight Simulator 2	79.95
Hunt for Red October	39.95
Project Stealth Fighter	49.95
Red Storm Rising	49.95

STRATEGY

Battle Chess	39.95
Chessmaster 2000	39.95
Chessmaster 2100	49.95
Curse of Azure Bonds	34.95
Secret of the Silver Sword	54.95
Dragon Wars	39.95
Hillstar	54.95
Mindstretchers	59.95
Pool of Radiance	39.95
Trump Castle	59.95
Ultima 5	79.95
Vegas Gambler	44.95

C64 HARDWARE

1541 Disk Drive	299.00
Action Replay Mk6	134.95
C64 RF Cable	14.95
C64 Serial Cable	14.95
Datasec	49.95
Modem 64/128 Netcomm	89.95
Mouse M3	74.95
Power Supply C64	59.95
Xetec Junior Printer Interface	129.95
MPS 1230 Printer	379.95
Test Pilot Pack	499.00

MAIL ORDER CUSTOMERS ONLY

MUSIC PACK \$19.95

Beatles music on your 64 cassette or disk including pop hits and free music keyboard overlay (old style C64 only).

JANE 128 \$19.95

Easy to use word processor, spreadsheet and database for 128 owners.

CARTRIDGES & CASSETTES 6 for \$19.95

Choose from:-

Magic Desk 1 (Cart)	Gorf (Cart)
Speed Bingo Math (Cart)	Music Machine (Cart)
Wizard of Wor (Cart)	Labyrinth (Cass)
Clowns (Cart)	Match Maker (Cass)
Super Expander Music (Cart)	Cricket (Cass)
International Soccer (Cart)	Frac Factory (Cass)
Visible Solar System (Cart)	Bonus Pak (Cass)
Financial Advisor (Cart)	Know Your IQ (Cass)

GEOS (C64 DISK) \$19.95

Convert your 64 into the amazing Geos operating system with Amiga type icons and pull down menus. Fully mouse compatible and includes a word processor.

Also available:-

Geos Desk Pack 1	\$19.95
Font Pack 1	\$19.95
Desk Pack 1	\$19.95
Geodesk	\$19.95
Geos User Manual	\$4.95
Geos Quantum Link Manual	\$4.95
Geos Centronic Printer Cable	\$9.95

OR
Order the full Geos Kit for only \$79.95



BRISBANE
225 George Street,
Brisbane, QLD 4000
Phone: (07) 229 8011

BURWOOD
185 Burwood Road,
Burwood, NSW 2134
Phone: 744 8809

CHATSWOOD
Shop G9, The Gallery,
Endeavour Street,
Chatswood, NSW 2067
Phone: 419 2333

CITY
165 Castlereagh Street,
Sydney, NSW 2000
Phone: 261 4344

HURSTVILLE
185E Forest Road,
Hurstville, NSW 2220
Phone: 570 7333

LIVERPOOL
Shop 4, Westfield
Shopping'n, Macquarie
St, Liverpool, NSW 2170
Phone: 601 7700

NEWCASTLE
180 Pacific Highway,
Charlestown, NSW 2290
Phone: (049) 42 1522

NORTH SYDNEY
Shop F1, Tower Square,
155 Miller Street,
North Sydney, NSW 2060
Phone: 954 9116

PARRAMATTA
Shop 21a, Greenway Arc.,
222 Church Street,
Parramatta, NSW 2150
Phone: 891 1170

PENRITH
Shop 1, Carvan Arcade,
389 High Street,
Penrith, NSW 2750
Phone: (047) 32 3377

Please send me **FREE** regular issues of Chip Chat magazine ☐
PHONE FOR LATEST NEW RELEASES

MAIL ORDER FORM

PRODUCT/PROGRAM NAME	COMPUTER	DISK TYPE	QUANTITY	PRICE

For Software only, add \$3.00 for post or \$10.00 for courier. For hardware, call to arrange.

Send to: Microcomputer Spot, Unit 3, Metro Centre, 38-46 South St, Rydalmere, NSW 2116

We will exercise all reasonable care in the processing of your orders but we accept no responsibility for orders, monies or products lost or delayed in transit. Your order will normally be processed within 48 hours, but please allow 14 working days for the fulfilment of orders. Telephone orders are, of course, welcome, but unfortunately, COD terms are not available. Whenever possible, please supply a phone number where contact can be made within normal working hours. **PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.**
DO NOT SEND CASH.

Method of payment, tick for Cheque ☐ Postal Order ☐

Tick for Bankcard ☐ Mastercard ☐ Visa ☐ AGC ☐

Credit Card No.

Valid from Until end

Name as per card

TOTAL \$

POSTAL CHARGE \$

GRAND TOTAL \$

For delivery:

Name

Address

Postcode

Telephone () Date Sent

Signature of cardholder



VIDEO TITLING - WHERE DO WE GO?

CREDIT TEXT SCROLLER

vs 3D

TEXT ANIMATOR

by George Kimpton

For those video enthusiasts who love to pretty up their home videos or documentaries, the acquisition of an Amiga is almost like winning Lotto. The world is their oyster with all those fantastic titling and effects programs.

There certainly are some terrific programs, *Video Effects 3D*, *Pro Video Plus*, *TV Text Professional* to name a few, but they are not cheap. Many regular users will say yes, but they are worth every cent.

Now if you are one of those honest people who buy all your software and like many of us don't have a lot of cash to throw around, how do you get on?

If things are really tight you turn to the Public Domain for something like *TitleGen*, which isn't too bad but limited in the visual effects area. If you were lucky enough to get some overtime this week you might wander down to the local computer shop in search of a good titler. This is where Mindware's *Credit Text Scroller* and *3D Text Animator* come in. They are aimed at the low cost end of software and are intended to be a part of a complete integrated video system where it is possible to add modules as needed. AREXX is supported for interaction with other programs.

The system is built around *PageFlipper F/X* and *PageRender 3D*, neither of which I am familiar with, although some professionals speak highly of *PageFlipper* for animation work. *PageFlipper* will be the sub-

ject of a later review.

Both these programs have much to offer or certainly will in later versions when upgraded and considering the cost. They may not be in the professional league but will offer the home user some good 3D and Animated titling effects.

I have read and I agree with the premise that a measure of the user friendliness of a program is the ability of a user to easily operate it without referring to the manual. Neither comes out too well in this category and to make matters worse the manuals are well and truly out of date. Even booting sequences and the method of making up the working disk are incorrect in the manual. Whatever you do don't start without reading the Readme files on the disks.

Apologies are offered for missing facilities which have either been withdrawn or not included due to operating problems. We are informed that these will be included in later versions.

Both programs require you to produce a working program disk from the distribution disk as they call it. The working disk bears little resemblance to the original as with *Sculpt 3D* and takes around 23 minutes to set up. Thank goodness it is all automatic, although I was asked to put disks in drives a couple of times even though they were already there. These disks are self-booting when complete and minus some files used in tutorials carried out using the distribution disk copy. There is no copy protec-

tion on either disk.

So much for the negatives. Now what can these programmes do? Let's look at them separately.

Credit Text Scroller

It is exactly what it says. It is primarily designed to scroll or slide text on and off screen. The text is imported from a text editor or word processor. No editing of the text is allowed even though fonts etc can be manipulated. Cut and paste facilities are available. After selecting the text file it is necessary to select a background screen in IFF format. This can be a blank or a picture of your choice. The full 4096 Amiga colours are supported along with all resolutions and either regular or overscan formats.

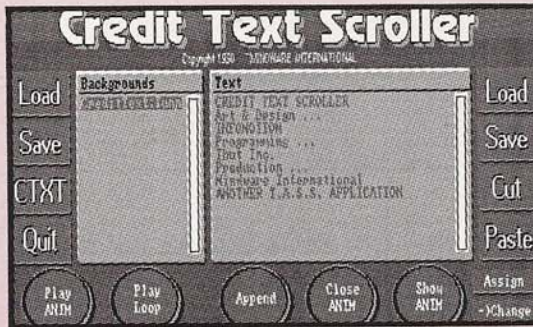
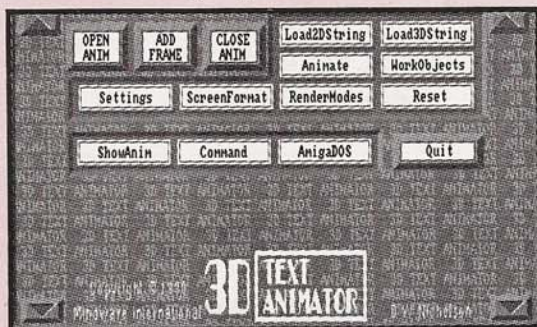
The distribution disk comes with a range of resolutions and formats including 2 bit plane forms for memory saving. These screens are in NTSC format and are not transferred to the working disk when made up.

You will need to make up your own in the PAL format or use existing pictures as backgrounds. Be wary of using high resolution formats with large palettes as this program can be extremely memory hungry. More about this later.

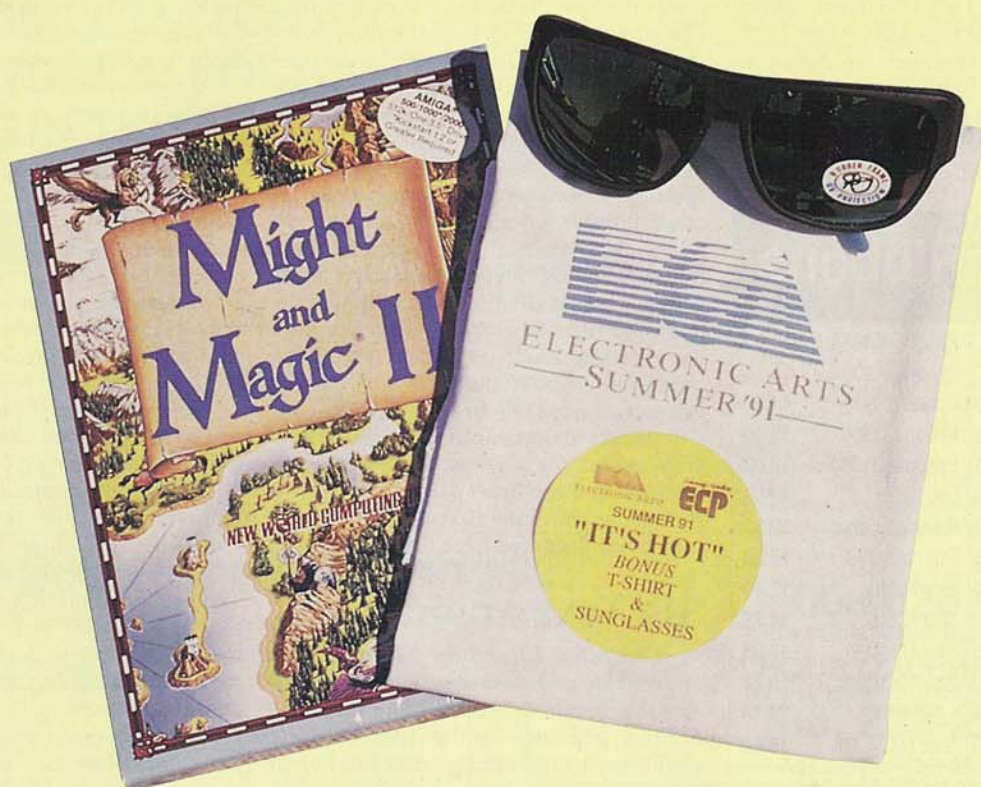
Fonts are selected from the usual workbench unless an assignment is made. Colour Fonts are supported. Different lines in the scroll can have different fonts and colours.

One very good feature is the easy access to help screens. There is no need to click over the button in question, all you need to do is place the mouse pointer over the button and press the help key. AREXX is included in the help info.

After choosing the



IT'S GOING TO BE A LONG "HOT" SUMMER OF HITS FROM ECP/ELECTRONIC ARTS



Look out for **BONUS T-SHIRTS** and **SUNGLASSES** with selected new releases at your local computer store.

Dealer enquiries contact
Entertainment & Computer Products
Ph: (075) 963 488 Fax: (075) 963 512


ELECTRONIC ARTS®

ECP
Entertaining
Australia

text file and background you click on the CTEXT button and away you go. By clicking with either the right or left mouse buttons you can control all aspects of text fonts, colours, justification etc. either on a global scale or by individual lines. You also control the number of "LinesPerFrame" the text will move in animation and the number of "LinesPerPage". All this is by using pop-up menus operated by mouse point and click.

Palettes and fonts are controlled in the same way with requesters allowing selection and adjustment. Bear in mind that the display inherits the colours of the background and the first four colours are used by the text. Palette colours are selected from a HAM type colour bar.

Tutorials are provided for each process and are fairly easy to follow but again be careful, check the ReadMe file.

Animation of the finished text format is by selection from the menu and a re-

quester pops up allowing a choice of storage areas for the resultant animation. RAM is recommended in the tutorial.

A word of warning here. Do not get too ambitious. While the tutorial, which was low-res, fitted in RAM OK I wasn't so lucky with my own efforts. One serious flaw is that there is no escape if you run out of memory during plotting except to reset the computer losing everything.

I did a test using 24 lines of text (108 words) in high-res and limited to two bit planes and yet I ran out of RAM even though I have 5meg's of chipRAM. Even the demo text run in high-res and a one pixel creep per frame ran out of memory. The only answer in this situation is to save to hard disk. These problems are understandable when you consider that my 24 line effort produced over 900 frames and took two minutes to run.

The animations produced are in the standard Anim. format and can be run in other programs such as *DeLuxe Paint 3* where individual frames can be fine tuned. Scrolling can be over a fixed background, image (IFF) or even another animation. Provision is made for conversion to overscan and non HAM to HAM mode. Where animated files are very big it is possible to split an Anim into its constituent IFF images automatically. This is very useful for anyone who wishes to transfer to *PageFlipper* later. All in all a promising program if you have tons of memory and can wait for the upgrades.

3D Text Animator

The same procedure as mentioned above is necessary to produce a working disk, again taking about 23 minutes of laborious copying file by file. Tutorials again use the distribution disk but horror of horrors it wouldn't work first up. Finally it dawned it doesn't like the 68020 processor.

Checking through the book brought to light the following info. "Version to suit 68020 available but not enough room on this disk. Apply if needed".

Booting up and switching down to the 68000 everything worked OK. Even the tutorials worked and I ended up with some animated 3D text.

Fonts are a problem. Only one 3D font is supplied, others are obtained by use of Syndesis Interchange modules to convert them to the correct format.

2D fonts can be imported for a text string, that string only is converted to 3D

by extrusion and not the font itself. These strings cannot be edited after conversion.

If you wish to convert an entire font this must be done using AREXX in the built in font editor and saved for future use.

Animation in this program does more than just scroll or slide text. It is possible to rotate text either as individual letters or words about the three axis X,Y and Z. 3D letters are in perspective form aligned to a pre-determined centre. This centre can be moved with the mouse pointer in a requester display and can produce some unusual effects.

This "centre" control is part of the animation capabilities along with the rotate controls. Rotation can be multiple and about more than one axis.

The text can also be made to appear to move towards or away from the observer. Letters can move independently and through different paths coming to rest to form words. Provision is also made to MOVE, ROLL, SPIN and FLY the text or letters. Backgrounds are colour only but can be any of the 4096 Amiga colours and can be in any of the usual resolutions with overscan. Control of bit-planes is allowed. Provision is also made for using full, half or quarter screens.

Rendering speed can be controlled by using either a filled, outline or wireframe format and dithering can be either on or off. Lighting is controlled by mouse in a requester. The animation is initiated from a requester which also sets up the rotation, direction and frame number. After saving the animation can be viewed either as a one off or a "forever" which is exactly what it is. I could not find any means of stopping it once in motion apart from resetting the computer.

Again a promising program with a few limitations and bugs which Mindware promise to fix. I don't know what possesses a company to release programs that are not finished, it only creates frustration and annoyance particularly when the manual corrections are so extensive.

These two programs are good examples of what I have been saying for a long time. We need places where we can go and try programs to see if they do what we need. How are we to know if these are important unless we try them?

Distributed by:

Computermate (02) 457 8388

RRP: Credit Text Scroller \$59.95
3D Text Animator \$79.95

Printer Ribbons

COMMODORE			
		Epson FX/MX80	13.50
		Epson FX100	15.50
MCS 810/20	16.95	Epson LX800	13.50
* colour	17.75	Epson LQ500	15.00
MPS 801	9.75	Epson LQ1000	17.00
MPS 802	12.00	OKI 183	12.00
MPS 803	11.00	P'sonic/Logitec	12.50
MPS 1000	8.75	Riteman C+/F+	16.00
MPS 1200	12.50	Star NX10	12.50
MPS 1230	26.50	Star NX15	14.75
MPS 2020	20.25	Star N24-15	18.95
* 4 colour	28.50	Star NX1000	9.75
TP 8023P	15.50	* 4 colour	22.50
VIC 1520	16.50	Star NX24-10	16.50

- quantity discounts for 6+, 12+, 24+
- many other types available
- single colours available at a surcharge
- all these (except MCS 810/20) recyclable (reink or reload)

D-I-Y RIBBON RECYCLING

REINKING MACHINES : \$199

ROLLED RELOADS to fit most cartridge types (black, colour, 4-colour): POA

Lazarus Ribbons

70 Wolseley Rd tel: (02) 960 2737
Mosman NSW 2088 (008) 24 9991
fax: (02) 968 1276

ATTENTION GEOS USERS: THE WAIT IS OVER. GOOD NEWS! GEOWORKS HAS AGREED TO MANUFACTURE A SPECIAL BATCH FOR AUSTRALIA.

GEOS owners who previously missed out please re-order.

For everyone who's ever waited a tad too long for a GEOS screen to redraw itself or an application to load, congratulations. The wait is over. Your chips have come in.

The GEORAM expansion board—for both 64's and 128's—is here.

MORE MEMORY, LESS WAITING.

Developed exclusively for GEOS-equipped Commodores, these babies pack an unbelievable 512K of extra memory, which propels GEOS into light speed productivity. Accessories pop up in an instant. Screens redraw in a wink. And applications scream out in a frenzy as you whip them along with your mouse or joystick.

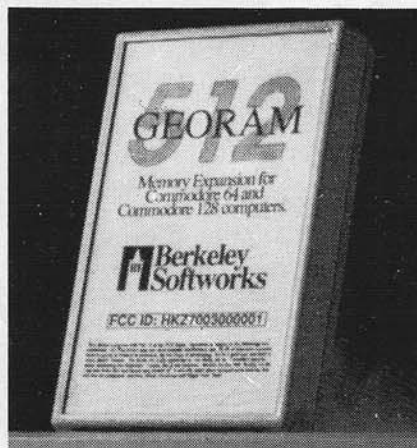
"An additional 512K of memory...is a really impressive upgrade...The usefulness of this becomes evident when using GEOS, as it can practically eliminate the...disk access you formally encounter."

—Run Magazine

Hard to believe? Believe it. GEORAM's disk transfer rate is literally 35 times faster* than the 1541, 1571 or 1581 disk drive. Which has the industry chattering almost as much as when GEOS first arrived on the scene:

"The difference between operating...on a 640K machine instead of a 128K machine could be compared to flying a jet and walking. Tasks that would normally cause a delay while the disk was accessed run at the speed of light..."

—Commodore Magazine



Pretty heady stuff. But every word of it's true. Because GEORAM stores everything electronically. Which means your Commodore doesn't waste time spinning magnetic disks searching for data.

That not only increases your machine's performance. It also increases yours. Because the time you used to spend waiting is being put to better use drawing, writing or doing any of the thousands of things you're using GEOS for.

"RAM expanded C-series machines...running under the GEOS kernel—are nearly as fast and flexible as the powerhouse Mac's, ST's, Amigas and PC's."

—Computer Shopper

So if you'd like to delete the delay, call us on (02) 457 8388 and order your GEORAM card today. You'll discover the difference in no time.

"It's the same GEOS, but unless you experience RAM expansion, you can't imagine the transformation...Some operations run a few seconds quicker, others (such as deskTop utilities) seem to appear before you select them...My RAM expander is the most cost-effective purchase I've ever made. Try one, and you'll never go back to magnetic media."

—Computer Shopper

The GEORAM Expansion Card. It may have been a long time coming, but it's definitely been worth the wait.

Not available in retail stores!

No external power supply needed!

Available by Mail Order Only.

Send your Name and Address together with payment of \$179 plus \$6 postage and handling (Mastercard and Bankcard accepted) to:

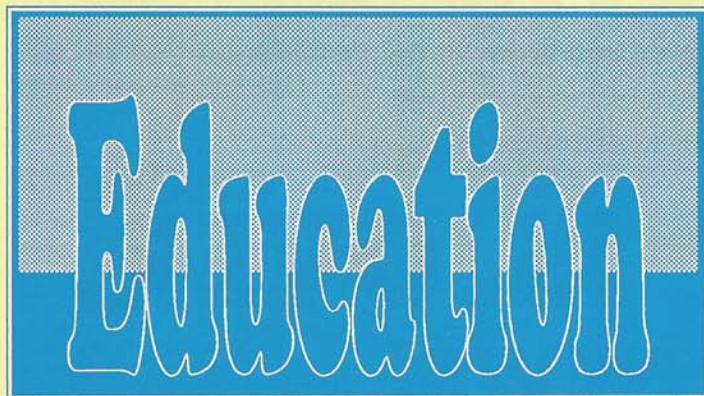
Computermate/Berkeley GeoRam Offer, P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080. Phone: (02) 457 8388, Fax: (02) 457 8739.

Please allow 4 weeks for delivery

LIMITED
QUANTITY
AVAILABLE

COMPUTERMATE™ **Berkeley Softwareworks**
The brightest minds are working with Berkeley.

LIMITED
QUANTITY
AVAILABLE



by Anne Glover

Selecting the right educational software for your children

➤ As the range of educational software for the Amiga slowly expands, the problem of making the right choice for your child begins to emerge.

Most computer shops or the relevant department in the large stores now have a number of items of Amiga software available for educational use. As well, the ever growing software mail order industry also provides parents with a huge range of alternatives in educational material.

Our access to suitable software is no longer the dilemma we faced in the past. Instead of too little choice, parents find themselves confronted by an array of educational software which may or may not meet the particular needs of their child.

Here are some possible pointers to the selection of educational software:

1. The needs of the child.

Before selecting any educational material, you should look at the needs of the child. Although this may appear quite daunting there are a number of simple things to look for.

Every child will broaden their horizons and their opportunities if they are computer literate. Any piece of software, even the dreaded "games", will achieve this to a degree. Certainly your child will have no fear of the hardware - that in itself is an accomplishment if you look at some of today's adults.

Every child needs to be literate, articulate and numerate. Many pieces of software will help your children improve their skills in these areas. The software should give you some information with the packaging as to whether it seeks

to address one or more of these aspects.

In this competitive age, no child will attain their full potential without a healthy level of self-esteem. Software that allows the child to make decisions, take responsibility for their actions and be rewarded with positive outcomes will build self-confidence.

Try to determine any specific needs your child may have. Maybe their fine motor skills could be lagging slightly, or an older child may be good at reading but reluctant to sit still long enough to become an even better reader.

Parents know their children better than anyone and can often identify any problems. If you watch your child and think carefully about him or her, an astute choice of software can potentially remedy a situation before it becomes a problem.

Make your child's needs a top priority when selecting educational software. Shopping without the little dears will often be helpful in this situation, as will the mail order brochures that give details as to content.

2. Find out what is available.

Obtain a listing of the educational material available from the various software distributors. Write to the organisations dealing in education software listed in this magazine and ask for their brochures or catalogues.

Try to obtain descriptions of the software rather than just titles and prices. The price lists will come in handy later when you have decided what to buy. You may notice a big price difference between distributors, especially if postage charges are included.

It is often very worthwhile doing a bit of comparison shopping. The price list will also help to tell you if the sale is really a sale! Being an informed consumer will mean

you are more likely to get what you want at a reasonable price.

3. The interests of your child.

However educationally correct your choice of software, it will not enhance skills if it is only given a cursory glance and then rejected. Whether your child is into "Turtle Power" or worlds of fantasy, always remember that the medium the software uses is largely irrelevant.

The objectives of the software designer and the skills to be developed in your child are critical. The Super Heroes who flit across the monitor may seem of paramount importance to young Joan or Johnny, but they are merely facilitators to their learning.

4. Your current software library.

When selecting new software for your collection, try not to duplicate the skills that are being developed by your current programs. Try to find something that enhances or builds on your existing library.

Initially, look for software that meets the needs and interests of your child as well as complementing what you have already. A few careful selections will mean covering your requirements more adequately without any undue expense.

5. Features of the software.

The characteristics of the software will often determine how frequently and effectively the program will be used. Only when the software is used often enough will your hard earned dollars be considered well spent.

Instead of too little choice, parents find themselves confronted by an array of educational software

Some questions you should be asking yourself when shopping for educational software might be:

- Does it have a range of activities?
- Do these activities vary enough to provide stimulating alternatives?
- Can the activities be used to keep different sorts of kids happy?

cont. on page 38

STARBLAZER

ANOTHER STAR IS BORN



From the manufacturer of the legendary "STARCURSOR" joystick comes the second addition to the Australian made range of joysticks.

The "STARBLAZER" joystick is packed with features in a compact and sturdy design.

The right joystick for our times . . . fast and accurate, for the games enthusiast who wants the best in feel and response.

PACKED WITH FEATURES

- Full microswitch action.
- Microswitch fire buttons . . . dual on the base and one on the grip.
- New ergonomic pistol grip . . . just the right angle for extended play and quick response.
- Compact design . . . great for both hand held and desk top operation.
- Effective non slip suction cups . . . put it in place and know the joystick will not move.
- 180° swivel handle . . . for easy comfort game control.
- Three way switching . . . lets you decide where you want your firepower.
- Sega adaptable . . . easy switch over to Sega.
- GUARANTEED FOR 12 MONTHS . . . by the manufacturer Multicoin Amusements Pty. Ltd.

180° SWIVEL HANDLE

For easy comfort game control

MICROSWITCH OPERATION

BUTTON CONTROL SWITCH

⊗ ⊗ ⊗ ⊗ ⊗ SEGA

Left Position:
Buttons 1, 2 & 3
Middle Position:
Buttons 1 & 2 operate
Right Position: Sega operation

THREE PUSH BUTTONS

Can be used with any game

SOLID CONTROL

Four fast grip suction caps



SEGA is a registered trademark of Sega Enterprises Inc.

Dealer Enquiries: MCA Phone: (075) 37 5711 Fax: (075) 37 3743.


COMPUTERMATE™

NEW RELEASES

COMMODORE 64/128 SOFTWARE - LEISURE

Disk version only, unless stated Suggested retail

DELIVERANCE : <i>Storm Lord II</i>	39.95
EDITION 1 COMPILATION : <i>Silkworm, Double Dragon, Xenon and Gemini Wing</i>	44.95
HEROES : <i>Star Wars, Barbarian II, Running Man and Licence To Kill</i>	49.95
LAND, AIR, SEA : <i>Airborne Ranger, Pirates and Gunship</i>	79.95
MICROLEAGUE WRESTLING : <i>SUPER STARS</i>	39.95
<i>Add-on data disk</i>	
SNOW STRIKE : <i>Flight simulator</i>	39.95
TIME MACHINE	44.95
WIZARDRY V	59.95
WIZARDRY TRILOGY	69.95

MAGAZINES - COMPUTER RELATED

AMAZING COMPUTING PRODUCT GUIDE	16.95
AMIGA AX SPECIAL <i>Inc. Disks (U.S.)</i>	29.95
AMIGA GRAFX <i>Inc. Disks (U.S.)</i>	19.95
RAMPAGE <i>Amiga Magazine on Disk (U.K.)</i>	19.95

MAGAZINES - GENERAL INTEREST

FANTASIA : <i>Fantasy/Role Play (U.K.)</i>	8.95
FEAR : <i>Dungeons & Dragons (U.K.)</i>	10.95
GAMES MASTER : <i>D&D/Strategy (U.K.)</i>	10.95
INTER ZONE : <i>Sci-Fi (U.K.)</i>	10.95
WARGAMER (U.S.)	13.95
WHITE WOLF : <i>Fantasy/Role Play (U.S.)</i>	10.95

AMIGA ACCESSORIES & HARDWARE

A500 5Mb Memory Expansion Card	175.00
A500 K.C.S. POWER PC BOARD	799.00
FRAMEGRABBER (PAL) : <i>Realtime</i>	1299.00

BOOKS GENERAL COMPUTING

AMIG DOS REF GUIDE : <i>3rd Edition</i>	44.95
AMIGA MAPPING THE AMIGA : <i>2nd Edition</i>	44.95

Available at selected Amiga Software Dealers.

Distributed and Supported by:
 Computermate Products (Australia) P/L.
 P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080
 Telephone: (02) 457 8388 Fax: (02) 457 8739
 Technical Support: (02) 457 8548

- Will the software grow with your child?
- Can you envisage it being used over a long period of time?
- Will it extend your children or simply follow their development?
- Is it child centred, with the child heavily involved or is he simply a spectator?
- Does it encourage creativity and individuality?
- When mistakes are made does it make "rude noises"? (A young child can easily be disheartened by insensitive software telling him he is wrong.)
- Is it easy for the child to use it on his own?
- What specific skills does it develop and how are they developed?
- Can a few children use the program at once?
- Are you able to record their progress to build on later?
- If it is a "talking" piece of software can your kids understand it?
- Can your children's own spelling words, maths problems etc. be saved onto the program disk?
- Does the software require any extra hardware?
- Finally....is it FUN?

All of this indicates that the successful selection of children's educational software is not easy, given that sometimes we don't view the product before we buy, and are relying on the very limited amount of information on the packaging.

This is where a review of appropriate software may assist you in your choice. However, remember that a review will only form one part of your selection process. Only you can judge if it may be right for your child and complement your current software library.

AMIGA PUBLIC DOMAIN SOFTWARE

- Free delivery ● 1,000's of programs
- All orders despatched next day

One of the Largest and most comprehensive ranges of Amiga PD software.

- FISH DISKS
- AMICUS DISKS
- AMIGAN DISKS
- ALPHA DISKS
- T-BAG DISKS
- TOPIK DISKS
- F.A.U.G. DISKS

All of the above disks are \$4.00 each

Best of Public Domain
 Over 370 self booting disks of the very best.

Best of P.D. EXAMPLES
 \$2.95 each

Monopoly,
 Wheel of Fortune, Chess,
 Video Poker, Frog.
 \$6.95 each

J.R. Comm, A-Genie,
 Ledger, Music Editor,
 Backup Disk
 \$9.95 each

Star Trek (1Meg/3disks),
 C Manual (3 Disks),
 C Compiler/Assembler

Send \$3 for a Catalogue disk plus a free game and virus checker
 OR \$5 for above catalogue disk PLUS a sample disk of 10 great Games/Utilities to

LEEJAN ENTERPRISES PTY LTD

PO Box 66 Happy Valley SA 5159 Tel (08) 322 3392

BANKCARD/MASTERCARD/CHEQUE/MONEY ORDER

BCARD/MCARD NOEXP.....

NAME.....SIGNATURE.....

ADDRESS.....

.....PCODE.....

TOMORROW'S PERIPHERALS

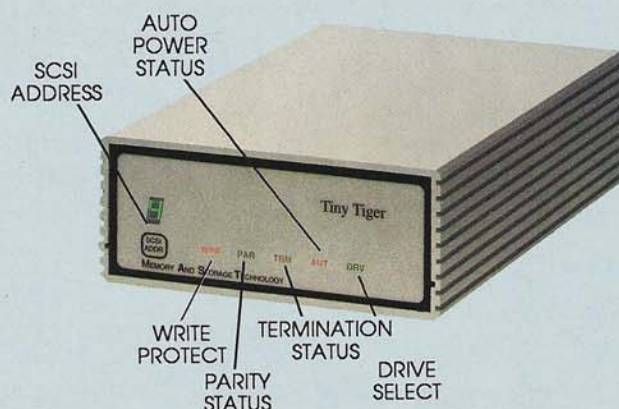
45MB TINY TIGER II \$1099 PORTABLE SCSI HARD DRIVE

Tiny Tiger is a high performance SCSI Hard Drive System for the Amiga. Features include:

- **PORTABLE** - plugs directly into all models of the Amiga through M.A.S.T.'s exclusive parallel port SCSI interface included FREE with each Tiny Tiger
- **RELIABLE** - Fujitsu mechanisms mean superior performance and 12 months to 5 year warranties
- **VERSATILE** - plugs into any SCSI interface if you do not wish go through the parallel port interface included. May be used STANDALONE, or daisy-chained to other systems e.g. A590 or Fireball Hardcard
- **FUNCTIONAL** - Front panel displays SCSI address, status of parity, write-protect, drive select, drive termination and auto power.
- **ATTRACTIVE** - comes in sleek, beige case
- **READY TO GO** - all software and cabling included - just power up and Tiny Tiger is ready to roar.
- **AFFORDABLE** - the best system for the best price

45MB \$1099
136MB \$1849

90MB \$1549
182MB \$2199



PERFORMANCE BREAKTHRU

FIREBALL A2000 SCSI HARDCARD

- 650K BYTES/SEC SUSTAINED
- UNIQUE WORD-LOCK DMA
- TURBOCHARGED WITH MAST THROTTLE MODE DMA
- AUTOBOOTING (may be switch disabled)
- STATUS LEDs
- COMPATIBLE WITH SYQUEST
- **RELIABLE** - uses finest quality Fujitsu drives
- **ECONOMICAL** -

Fireball + 45MB \$999 + 90MB \$1549
+ 136MB \$1849 + 182MB \$2129
+ 672MB \$5249
+ 44MB Removable \$1369



SCSI HARD DRIVES

45MB 12ms Fujitsu	\$799
90MB 11ms Fujitsu	\$1299
136MB 11ms Fujitsu	\$1599
182MB 11ms Fujitsu	\$1849
672MB 10ms Fujitsu	\$4950
44MB Removable	\$1099
Cartridges	\$189

MEMORY EXPANSION

FOR A500:

MICROMECS - 512k RAM \$139

512k RAM with clock/calendar - A501 clone

MINIMECS - 2MB FAST RAM \$499

external, "pocket-size", plug and go

MAXIMECS - 2.3MB RAM - plugs into A501

slot. Gives up to 2MB of GRAPHICS RAM by utilising

block switching. See ad May A/W.

Available soon.

QUATROMECS - 4MB RAM - plugs into A501

slot. Gives up to 4MB of RAM.

2MB \$589 4MB \$CALL

FOR A1000:

MINIMECS - 2MB FAST RAM \$499

FOR A2000:

OCTOPLUS - 8MB FAST RAM \$499

with 2MB

SIMM MODULES - 1x8-80ns for GVP cards

RAM CHIPS - call for latest pricing



ATTENTION READERS: We have a factory in the U.S. and air-import Amiga hardware and software every week. We carry a range of business, utility, graphics and entertainment software at the **LOWEST PRICES**. If you find a cheaper genuinely advertised price in this magazine, we will beat it - **GUARANTEED!**

AMIGA HARDWARE & SOFTWARE TITLES

A-Max	\$259
AmiAlignment	\$57
Animagic	\$139
Animate 3D	\$22
Araxx 1.06	\$65
B.A.D.	\$69
Can Do	\$189
Copyist Prof.-Dr.T.	CALL
Cross Dos - latest version	\$43
Deluxe Video III	\$166
DigiPaint 3	\$123
DigiView GOLD 4.0	
-Camera + Lens	\$549
Excellence	\$269
Express Copy	\$69
Express Paint V1	\$69
Lattice C V5	\$409
Pagestream	CALL
Pagestream Fonts	\$52
Pen Pal	\$175
Pixmate	\$69
Prof Page	CALL
Quarterback	\$85
Text-Ed Plus	\$109
Turbo Silver	\$275
TV Show Professional	CALL
Video & Anim Backgr.	\$46
Video Effects 3D PAL	\$329
Videoscape 3D	\$215
Video Titrer	\$163
WShell	\$69
X-CAD Designer	\$163
X-CAD Prof.	CALL
X-Copy	\$43
MONITORS - 16"/22" CALL	
MOUSE MATS \$8, \$12	
MOUSE WASHERS	

BOING! \$189

OPTICAL MOUSE
3 BUTTON, X-WINDOWS COMP.

SUPER PRICES!

Easy! \$699

GRAPHICS PAD - A500/1000/2000

PERFECT SOUND \$139

A-MAX \$259

DIGIVIEW 4.0 \$269

EXTERNAL DRIVE \$159

A500 PCXT BOARD \$CALL

DISKETTES
3.5" bulk Sony
Colour \$1.50 ea.

ENHANCED UNIDRIVE \$199.95

with TRACK LED DISPLAY, HARDWARE WRITE/VIRUS PROTECT,

PASS-THRU, ON-OFF SWITCH, SUPER LOW POWER, NO-CLICK

UNIDRIVE - pass-thru, switch \$169.95

A2000 internal drive - no-click \$149.00

AMIG-a-TOSH MAC drive \$299.00

M.A.S.T. Technical Excellence

MEMORY AND STORAGE TECHNOLOGY

19-21 BUCKLAND ST. BROADWAY. 2007 TEL: (02)281-7411 FAX (02)281-7414

512KB RAM EX

AMIGA 500 MEMORY EXPANDER

- **EXPANDS** the Amiga 500 memory to over 1 megabyte allowing the user to play some of the latest games with enhanced sound and graphics.
- **SIMPLE** to install, just plug it in.
- **REALTIME** clock/calendar with **NICAD** battery backup.
- **NEW ENABLE SWITCH** — this switch allows you to turn off the extra ram at your leisure. **NOTE:** Some games require the extra ram to be turned off otherwise they won't run.
- **COMPATIBLE** — fully compatible with the AMIGA 500.
- **VERY LOW** power consumption.
- **12 MONTHS GUARANTEE.**

This product has been built in Australia by Home Entertainment Suppliers Pty. Ltd., using the latest **state of the art** technology. Only the best local and overseas components have been used to give you a highly efficient and compact component.



Proudly made and distributed in Australia by:
HOME ENTERTAINMENT SUPPLIERS PTY. LTD.
Unit 1/128 Bonds Road, Riverwood 2210 NSW (02) 533 3277

PANSION CARD

For Commodore Amiga 500

Clock/Calendar and Enable Switch

AVAILABLE AT:

NSW

COMPUTER SPOT

Sydney Ph: (02) 221 1910
Liverpool Ph: (02) 801 7700
Hurstville Ph: (02) 570 7333
Burwood Ph: (02) 744 8809
Parramatta Ph: (02) 891 1170
Penrith Ph: (047) 32 3377
Hornsby Ph: (02) 477 6886
Chatswood Ph: (02) 419 2333
Charlestown Ph: (049) 42 1322

GAMES WIZARD

Granville Ph: (02) 882 1268

HARVEY NORMAN DISCOUNTS

All stores - Metro and Country

SADP 4

Marrongong Ph: (042) 26 2088

STEVES COMMUNICATIONS

Fyshwick Ph: (06) 280 6877

THE GAMEMEN

Penshurst Ph: (02) 580 9888

QLD

HARVEY NORMAN DISCOUNTS

All stores - Metro and Country

PICK & PAY HYPERMARKET

Aspley Ph: (07) 283 1588

UNITED COMPUTERS

Ashmore Ph: (075) 97 3260
Bundamba Ph: (07) 282 6233
East Brisbane Ph: (07) 303 0300
Stafford Ph: (07) 358 9599
Underwood Ph: (07) 808 3366

ACTIVE COMPUTERS

Townsville Ph: (077) 72 3793

CITY COMPUTER CENTRE

Rockhampton Ph: (079) 27 3618

PCB ELECTRONICS

Cairns Ph: (070) 54 7306

DELTA ELECTRIC

Ayr Ph: (077) 83 1666

TROPICAL T.V. SERVICES

Townsville Ph: (077) 79 1421

TAS

ANGUS & ROBERTSON

BOOKSHOPS

Hobart Ph: (002) 34 4290

Launceston Ph: (003) 34 0811

QUADRANT COMPUTER CENTRE

Launceston Ph: (003) 34 3436

BIRCHALLS

Launceston Ph: (003) 31 3011

ROBBIES TELETRICIAN

Wivenhoe Ph: (004) 31 2560

SA

JOHN MARTIN

All Stores

HARRIS SCARFE

Rundle Mall Ph: (08) 203 4444

PLAZA COMPUTERS PTY. LTD.

Modbury Ph: (08) 264 9399

VIC

MAXWELLS

Abbotsford Ph: (03) 419 6811

MEI SOFTWARE

Dandenong Ph: (03) 794 9813

Ferntree Gully Ph: (03) 758 9494

MIDI-MOUSE COMPUTERS

Weyribee Ph: (03) 749 4138

Altona Ph: (03) 314 4669

Chadstone Ph: (03) 569 0278

WA

COMPUTER CORNER

Maddington Ph: (09) 459 0650

STANBRIDGE GAMES

Balcatta Ph: (09) 345 1922



WITH
**NEW
ENABLE
SWITCH**

KIDS COLLECTION

by Anne Glover

➤ *Kids Collection* is a three disk set for children aged between three and seven. It is designed to be "educational, yet fun and easy to use". There are three games in the *Kids Collection* - one on each disk.

1. Bambino

This is a jigsaw puzzle game. There are 25 puzzles to choose from, ranging from Bambino (the teddy bear) to a ship or a beetle. The range is a bit unimaginative. The number of pieces in the jigsaw puzzles vary from eight to sixteen.

There are two levels of difficulty. At level one an outline of each puzzle piece is left behind as the puzzle is fragmented. This makes it much easier for a young child to determine the correct location of the puzzle piece.

At level two the outline is no longer shown, making it more of a challenge for older children or adults! The mouse or the arrow keys can be used to pick up the jigsaw pieces and place them in the correct spot.

Some great music is played after the puzzle has been completed correctly. However, a sound like a sick po-go stick makes you quickly aware of any mistakes as the incorrectly placed piece bounces back to the side. This sound may be disconcerting to many young children.



2. Memorise

In this game you are presented with six pictures, (e.g. a rabbit or a cloud) and are required to remember each one and its location in the required time.

The initial time the child is shown the six pictures can be adjusted from 20 seconds down to two seconds.

After the screen is cleared, each picture comes up on its own while the child (or adult) uses the mouse to place it in the correct location. No nasty noises here!

The number of sets of pictures tested can be varied from 3 to 24. A record of the number of mistakes is held at the top of the screen but it is probably not too obvious to very young children. If you don't point it out to them initially they will not be discouraged by it when playing the game.

Older, more competitively natured children may wish to use the scores to record their progress against their friends.

3. Associate

In this game, the child is presented with a picture (e.g. an umbrella) and a choice of four other pictures with which to associate it. The child uses the mouse to indicate the correct option. After a correct placement another picture comes up to be placed until all four have made a match.

The concept of association and the relationship between different objects is important for young children to absorb and understand. However, this is a very simple game, it would not be much of a challenge for a child over five.

Some general comments

Kids Collection assists children in the development of some important concepts and skills in an enjoyable way. This programme can help children

- ✓ develop problem solving techniques,
- ✓ recognise the relationship between different objects,
- ✓ determine a logical order in a sequence of steps,
- ✓ develop memory skills,

- ✓ make choices between options,
- ✓ develop their accuracy with the mouse and/or direction keys.

Each game is fairly basic and easy for the child to understand and operate quickly. Although, they may also become bored with it quickly too.

Kids Collection can be operated by children as young as four. As each game is on a separate disk, your Amiga may appreciate you only giving the child one disk at a time. This will reduce the continual reloading as the child changes his choice of game.

Different levels can be used in two of the games. Children could come back to these games when they are older and still find some challenge in them.

Some of the games could be played in turn with a few patient children.

Every decision is either right or wrong in the *Kids Collection*. Because of the nature of the game there is no allowance for the development of their creativity or individuality.

Kids Collection is quite different to a lot of the other software that is currently available for young children. As such, it must provide a viable complement to many software libraries.

Conclusion

The three games in the *Kids Collection* teach some excellent concepts to young children in a simple and enjoyable way. On their own they may not provide a stimulating time for long, but they could complement nicely some of your current software that is more factual and less concept oriented. □

Distributed by:

Questor (02) 6627944

RRP: Amiga \$59.99



Coming to grips with the Amiga's CLI - a tutorial for beginners: Part 5

by Andrew Leniart

► This issue I thought we would go over a couple of the less used commands in the CLI. The reason they are less used probably stems from the fact that a lot of people don't know what sort of information can be gleaned from them.

'Info' is, I believe, one that falls into this category. Usage of this command is simplicity itself. Just type its name in the CLI and it will do its stuff. Assuming we had just booted up with an unmodified version of our workbench diskette and typed in 'info' we would end up with something similar to this:

```
Mounted disks:Unit Size Used Free Full Errs Status
Name DF0: 880K 1645 113 93% 0 Read / Write A500 WB1.2
DF1: 880K 534 1224 30% 0 Read TextPro
Volumes Available: A500 WB1.2 [Mounted] RAM DISK
[Mounted]
```

What does it all mean?

Well, the first section is titled "MountedDisks". Strictly speaking, it is really referring to mounted (or connected) drives, not just the disks concerned.

Moving down, the "Unit" category lists the drive specifier, ie, any disk drive that you have hooked up to Amiga.

The 'Size' category lists the disk's capacity as specified by the format (covered in a previous issue) command.

The 'Used' & 'Free' categories display the number of blocks [1block=0.5K : 2 blocks=1K] used and the number of blocks still available.

The 'Full' category gives you information in the way of a "percentage" of the disk that has been used.

A zero under the 'Err' category tells you that no defective blocks (or errors) exist on your disk.

'Status' tells you the position that the

write protect tab on your disk is in. In our example above, the disk in drive DF0: can be read or written to, whereas the disk in drive DF1: can only be read. 'Name' tells us the names of the respective disks.

Moving down to the next section, (Volumes Available) lists the names of the disks which are currently inserted in the drives. This is handy as you do not need to remove the disk from the drive to check its name.

With the arrival of the 1.3 upgrade came an extra feature for Info and that is the "DEVICE" switch. This allows you to get info on a single particular drive without being bothered with any others that are mounted or connected. So,

Info DF1:

would effectively give us all the relevant info we discussed earlier except that it would only be pertinent to drive DF1:

DELUXE CREATIVITY SERIES



The **EXCITEMENT** you expect from your Amiga
The **QUALITY** you expect from ECP/Electronic Arts
The **PRICE?** you won't believe it!

\$99.95

Available from leading computer stores
Dealer enquiries contact
Entertainment and Computer Products
Ph: (075) 963 488 Fax: (075) 963 512

ECP
ELECTRONIC ARTS

ECP
Entertaining
Australia

and none of the others.

Addbuffers

This is another command that is useful and has the potential to save time and make for a more enjoyable working environment.

Here is its command template..

Addbuffers DRIVE/A,BUFFERS/A
Addbuffers assigns a small or large buffer to a specified disk drive.

I've explained in previous issues that when you work with the Amiga, commands are loaded from disk as they are needed which is unlike the way IBM Clone machines work. This process, while achieving a saving in memory used by your machine, has the disadvantage of slowing down execution time when issuing commands. By the use of Addbuffers, we can relieve this problem a bit by allowing frequently used (small) commands to be contained in a disk drive's buffer. Once a command is in a drive's buffer, then it no longer needs to be recalled from the disk again. Consequently, the execution time of that command is speeded up considerably.

Here is how we use it. Let's say we wanted to assign an increase to our internal drive buffer DF0: We would type in "Addbuffers DF0: 20". This would effectively assign 20 blocks of RAM to drive DF0:.. Note that 1 BLOCK = 512 Bytes! I should point out a couple of things here.. Firstly, Addbuffers is best used in the startup-sequence of a disk so that it is automatically executed each time you boot your work disk. Its purpose of saving time would be defeated if we had to type it in at each session.

Secondly, the Addbuffers command does have a small disadvantage. The buffer memory allocated to disk memory is taken from your system memory or RAM. Now that, on its own, is not the biggest disadvantage, however what is, is the fact that once you allocate memory to a disk's buffer, the only way you can get that memory back if you need it is to reboot the system. There is no other way to clear the drive's buffer once you have allocated that memory to it.

Last of all, I have found through experience that assigning more than a maximum of 20 blocks to any disk drive does not really improve the performance to any great extent. In light of this, it is probably best to just stick to the maximum of 20 or else you are probably just wasting memory.

ARP AmigaDOS Replacement Project

OK, let's take a break from commands for now and move onto something I think should be of interest to all CLI users.

Last issue I made a brief mention of the Amiga Dos Replacement Project (ARP) But what is the ARP and what can it do for you? The simple answer to that is "HEAPS".

Briefly, ARP is a "combined" effort of some 25 people including the beta testers who have been generous enough to do all the hard work and place the product in the public domain libraries. What it does is replace all the commands on your workbench disk with ones that are as near 100% compatible with Amiga Dos as you could get and do exactly the same thing as Amiga DOS commands do and MORE. The commands have been totally re-written in assembly.

This results in a decrease of their file size which is a bonus on its own as it, in turn, increases the space you have available on your disk.

More options are available with the ARP commands and one which I particularly like is the extended help feature. Here is an example of what I mean. If we wanted to find out the command template for the DOS command "Rename", we should all know by now that we can do this by typing:

Rename ?

The result after thumping on the return key would be:

From /a,TO=AS/a,QUIET/s:

Now this is where the ARP will supply you with additional information. Enter another ? at this stage and your Amiga would respond with:

Usage: Rename <wildcards> [AS]
<wildcards or dir> [QUIET]

I think that everyone would agree that this is heaps easier than getting out the ol' AmigaDOS manual and flipping through the pages to get some more info on how any particular command is used! Now this is but one example and I could give you many others, however I've always been of the opinion that the proof is in the pudding, so the best way to see exactly what I mean is to try it yourself.

Another advantage to using the ARP commands is that the authors have provided some extra commands which are highly useful yet not available on your standard "out of the box" workbench dis-

kette.

Let's have a quick look at one of the more interesting ones - MOVE. The new ARP MOVE command is actually an enhanced version of the AmigaDOS "Rename" command.

MOVE is capable of doing anything that 'rename' can do but will also move a file from one disk to another. This is a far more efficient way of moving a file than say 'copy'ing the file across to another disk and then deleting it from the source disk.

MOVE will also accept wildcards (see the August issue for more info on wildcards) as will the ARP 'rename' command, making it possible to work on multiple files with one hit. The standard Amiga Dos 'rename' command will not accept wildcards so this alone is an excellent addition and potential time saver!

There are quite a few others which we won't go into here, but I can say with confidence that anyone who uses the CLI frequently will be very impressed with what ARP has to offer.

The authors of ARP even went to the extent of writing a program to help users install the enhanced commands on their system disks. Called "ArpInstall", this program may be run either from workbench or the CLI and is truly a dream to use. Virtually foolproof, the program gives information of what it is doing every step of the way and asks you to confirm you want something to happen before it continues with any process.

Where you get it

As I said before, ARP along with the Install program is available in the public domain and is freely distributable. Any good PD outlet should have a copy and it is certainly available from Prime Artifax, who advertise AC&AR. To get your copy, just write in and ask for ARP 1.3 or call (02) 879 7455.

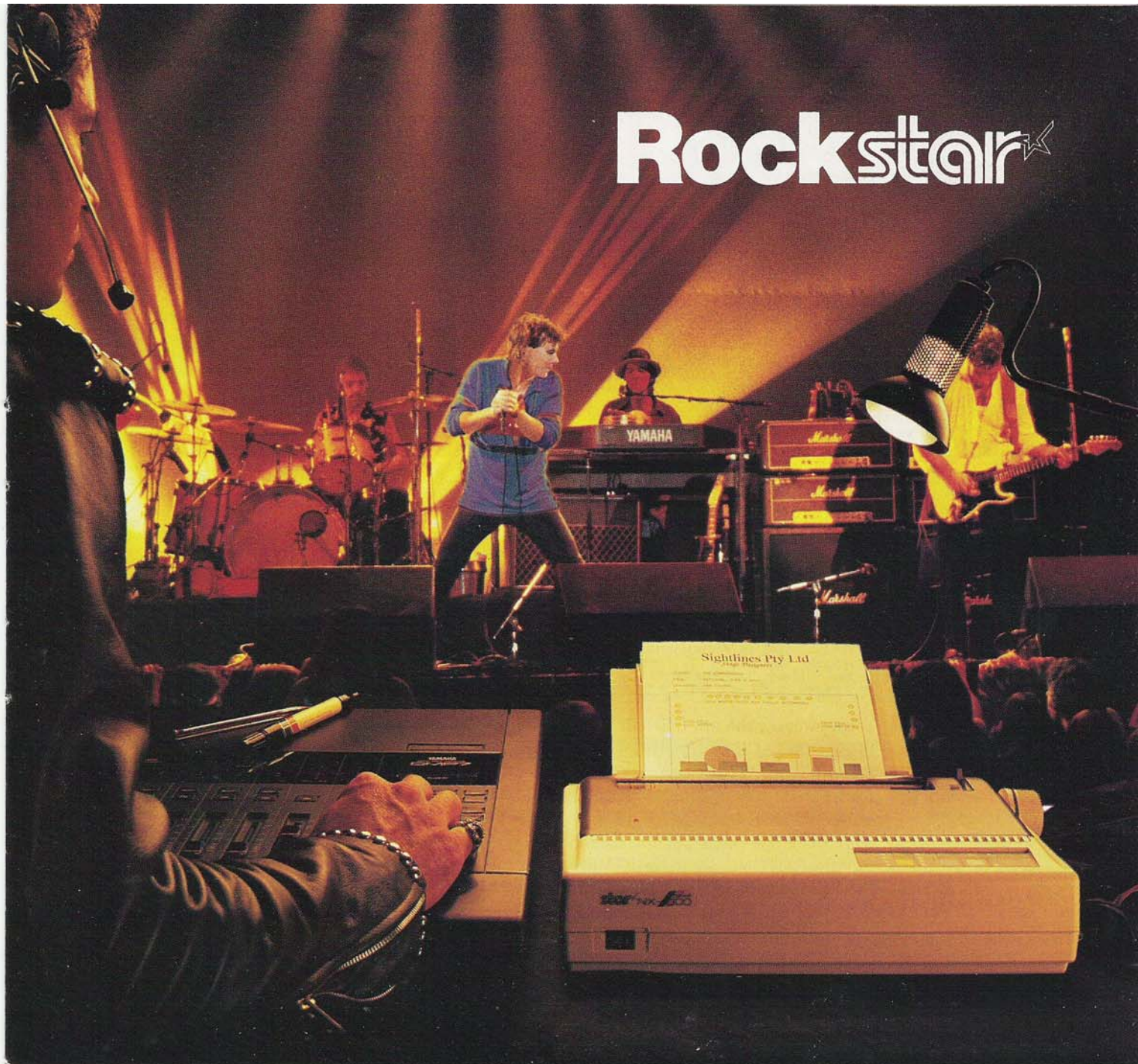
Well that concludes this instalment of our CLI tutorial. I hope you have found it useful and got some mileage out of it. Next issue we'll look at a few more commands available to us and possibly some replies to questions asked by readers if you choose to respond to the invitation at the start of this article.

Till then, don't forget to experiment and read over what we have covered in past issues. Try everything and you will soon begin to see that Amiga Dos really isn't half as complicated as it first seemed to be.

See you next time...

□

Rockstar



These days, rock musicians are playing a new type of keyboard.

Computers are being used for everything from song composition to keeping track of the finances.

Star printers, such as this NX1000 CL, deliver the performance the music industry demands, whether in the studio or out on the road. It's easy to operate, has a choice of typefaces, prints in brilliant colour and is widely compatible with most computer systems and software.

Star are the world's largest specialist computer printer company, and can supply the model best

suited to your needs from their large range of dot-matrix and laser printers. Not surprisingly, we're really rocking the opposition.

For the complete Star story, including details of all our models, simply call your state office.

Sydney 748 4300,
Melbourne 544 6676,
Brisbane 875 1551,
Perth 344 2488,
Auckland 570 1450.

star
micronics
computer
printers

KAZOO STAR992



Interlink...

AMIGA

-- GAMES -- ARCADE

ALTERED BEAST	49.50
ANT HEADS	29.50
ASTERIX	59.00
BAD COMPANY	49.00
BARBARIAN II	59.00
BATMAN "MOVIE"	59.00
BATTLE SQUADRON	59.00
BATTLEHAWKS	59.00
BEVERLY HILLS COP	44.00
BLACK TIGER	49.50
BLOCK OUT	59.00
BOMB JACK	49.00
BUDOKAN	49.50
CABAL	59.00
CADAVER	59.00
CARTHAGE	59.00
CASTLE WARRIOR	69.00
CHASE H.Q.	59.00
CLOUD KINGDOM	59.50
COLONY	66.50
COMBO RACER	59.50
COMMANDO	49.00
CRACK DOWN	59.50
CREATURE	49.50
CYBERBALL	49.00
DAYS OF PHAROAH	59.50
DOGS OF WAR	44.00
DOUBLE DRAGON II	59.00
DRAGON NINJA	59.00
DRAGON'S LAIR II	89.00
E-MOTION	59.50
FACE OFF	39.00
FLIMBO'S QUEST	59.50
FLOOD	49.50
GHOSTBUSTERS II	59.00
GHOST'n GOBLINS	59.00
GRID RUNNER	39.50
GUNSHIP	49.00
HAMMERFIST	59.50
HARD DRIVIN'	59.00
HOT ROD	54.50
INDIANA JONES ARC	49.00
IT CAME FROM	
THE DESERT	59.00
IVANHOE	59.50
JUMPIN' JACKSON	49.50
KID GLOVES	59.00
LIGHT FORCE COMP.	59.00
LORDS RISING SUN	69.00
LOST PATROL	59.50
MIDNIGHT RESISTANCE	59.50
NINJA SPIRIT	59.00
NINJA WARRIORS	54.00
NZ STORY	59.00
ONSLAUGHT	54.00
OP. THUND'RBOLT	59.00
PINBALL MAGIC	39.00
PIPE MANIA	59.50
POWERDRIFT	59.00
POWERDROME	59.00
PRECIOUS METAL	59.00
RAINBOW ISLANDS	49.00
REACH FOR STARS	49.00
RESOLUTION 101	59.50
RICK DANGEROUS	49.00
ROCK & ROLL	49.00
SHADOW OF BEAST	59.00
SH/BEAST II w/T-Shirt	79.50
SHUFFLE'K CAFE	49.00
SILKWORM	49.00
SKWEK	49.00
SPACE ACE	89.00
SPACE ROGUE	59.50
SPEEDBALL 2	CALL
STARLORD	59.50
STRIDER	59.00
STUNT CAR RACER	59.00
SUPER WONDERBOY	49.00
SWITCHBLADE	49.00

TEENAGE MUTANT NINJA	59.50
TURTLES	49.00
TEST DRIVE II	39.00
T.D. II DISKS	39.00
THE JETSONS	49.00
THE MANHOLE	89.00
THE PLAGUE	54.50
TOOBIN'	49.00
TURRICAN	49.50
UNREAL	59.50
VENUS THE FLYTRAP	49.50
WEST PHASAR	99.50
WILD STREETS	59.00
WINGS OF FURY	44.50
XENOPHOBE	59.00
XENON 2	59.00
X OUT	45.50

STRATEGY

688 ATTACK SUB	49.50
ARMADA	49.00
AUSTERLITZ	59.50
BAL. OF POWER 1990	59.00
BATTLE COMMAND	CALL
BATTLE TANK GMY	89.50
BATTLE TANK ST'L	89.50
BORODINO	49.00
CARRIER COMM'D	69.00
CONFLICT EUROPE	59.00
COURTROOM	69.50

O-P BASKETBALL	59.00
O-P HORSE RACING	59.00
PRO TENNIS	59.00
STREET ROD	49.50
TENNIS CUP	39.50
THE CYCLES	59.00
TV SP. BASEBALL	CALL
TV SP. BASKETBALL	69.00
TV SP. FOOTBALL	69.00
ULTIMATE DARTS	49.00
WORLD CUP SOCCER	49.50

ADVENTURE

BANDIT KINGS OF A.C.	82.50
BARD'S TALE I/II	49.00
BLOODWYCH	59.00
CASTLE MASTER	59.50
CHAMPIONS KRYNN	54.50
CHAOS STR'K BACK	CALL
CHRONO QUEST II	69.50
CODENAME ICEMAN	59.50
COLONELS BEQUEST	59.50
CORPORATION	59.50
C'QUEST / CAMELOT	59.50
DRAGON'S BREATH	69.50
DRAGONS FLAME	49.00
DRAKKHEN	59.00
DUNGEON MASTER	59.00
ELVIRA	69.50
HERO'S QUEST	59.50

FALCON	54.00
FALCON MISSION	49.00
FALCON MISSION 2	54.00
THEIR FINEST HOUR	64.50
WINGS	69.50

"INDOOR"

BATTLE CHESS	64.00
BRIDGE V6.0	59.00
CHESS CHAMP 2175	79.50
DLX STRIP POKER	59.00
D.S.P. DATA I/II/III	29.50
GIN/CRIBBAGE KING	59.50
SEXTIMATES	69.50
ULTIMATE CASINO	59.00
VEGAS GAMBLER	25.00

COMING SOON

(ORDER NOW)	
FLIGHT OF THE INTRUDER	
HAWK	
MICROPROSE INTERNAT-	
SOCCER CHALLENGE	
MONKEY ISLAND	
SIM-EARTH	
SPEEDBALL 2	
THRILL OF WINNING 2	
TV SPORTS BASEBALL	
VETTE	

PRO PAGE 1.3	299.00
PROFL DRAW	275.00
PUBLISHER CHOICE	195.00
SAXON PUBLISHER	595.00
TEMPLATES (PPAGE)	79.50

SPREADSH'S

ADVANTAGE	269.00
ANALYZE!	89.00
DG CALC	89.00
HAICALC	79.00
MAXIPLAN 500	79.50
MAXIPLAN PLUS	229.00
SUPERPLAN	119.00
TEMPLICITY	59.50

--- BUSINESS ---

BUDGETEER	79.00
DAY BY DAY	59.00
DESKTOP BUDGET	99.00
EASY LEDGERS	395.00
ELECTRONIC CASH	179.00
ELECTRONIC DEBT	229.00
HOME ACCOUNTS	89.00
HOME FRONT	129.00
PERS. ACS PLUS	59.00
PHASAR V4.0	99.00
SBA CASH	149.00
SBA PLUS	199.00
SBA EXTRA	129.00
SYSTEM 3	129.00

PAGE RENDER 3D	189.00
PHOTON PAINT II	195.00
PIX MATE	99.00
PROMOTION	119.00
SCENE GENERATOR	59.50
SCULPT 3DXL	259.00
SCULPT 4D JNR	229.00
TOP FORM	119.00
TURBO SILVER 3D	239.00
TV TEXT PROF.	239.00
VIDEOSCAPE 3D	249.00
X-CAD DESIGNER	179.00

- LANGUAGES -

AC/BASIC	289.00
AMIGA VISION	195.00
AMOS (Pactronics)	125.00
ArXX	74.00
ARGASM	119.00
ASSEMPRO	159.00
AZTEC C PROF.	395.00
BENCH. MOD-2	279.00
CAN DO	195.00
DEVPAK 2.0	149.00
GFA BASIC + COMPL	139.00
HI-SOFT BASIC PRO	179.00
HI-SOFT EXTENSION	54.50
JFORTH PROF.	349.00
LATTICE C V5.2	395.00
LATTICE C++	499.00
TRUE BASIC	139.00

--- MUSIC ---

AMAS	299.00
AUDIO MASTER III	149.00
BARS & PIPES	399.00
DELUXE MUSIC CS	99.00
DR T'S APPRENTICE	149.00
DR T'S COPY DTP	449.00
DR T'S KCS 3	299.00
DR T'S TIGER CUB	119.00
MASTER SOUND M.	119.00
MASTER TRACKS	549.00
MUSIC X	299.00
PERFECT SOUND	189.00
SONIX	99.00
SONIX TRACKS (ea)	25.00
SONIX PLUS 2	125.00

-- UTILITIES --

A-MAX II	CALL
AMI ALIGNM'T KIT	69.50
A-TALK III	99.00
CLI-MATE	69.00
CROSS DOS V4.0	59.50
DIGA!	109.00
DISK 2 DISK	59.00
DISK MECHANIC	119.00
DISKMASTER	74.00
DOCTOR AMI	59.50
DOS LAB	44.00
DOS 2 DOS	69.50
D.U.D.E	74.50
DUNLAP UTILITIES	99.50
FAT TRACKS	89.50
GP TERM	99.00
GRABBIT	59.00
KCS POWER BOARD	780.00
(IBM emulator + memory exp.)	
LASER SCRIPT	49.00
MAC 2 DOS	199.00
MASTERING CLI	59.50
PIXEL SCRIPT	199.00
PRINTMASTER +	59.00
PROJECT D	74.00
QUATERBACK	89.00
STARSOFT HD BACK	69.50
SUPERBACK	119.00
XCOPY + Hardware	109.00

- EDUCATION -

We also carry a large range of education software. Please call or request our catalogue.

- We now carry the full GENUINE Commodore Amiga hardware range
- FREE POSTAGE of software anywhere in Australia
- FREE PRICELISTS
- FRIENDLY, KNOWLEDGABLE STAFF
- HUGE RANGE OF PRODUCTS for AMIGA, C64/128 and IBM PC
- STD FREE 008 Order line - business hours
- COMPLETE ONE-STOP AMIGA Shop
- Pre-Christmas special - EA's DELUXE SERIES REDUCED TO \$99 ea.

There's always ways to save at INTERLINK

FIRE BRIGADE	49.00
FULL METAL PLNT	59.50
GENGHIS KHAN	79.00
GOLD O' AMERICAS	49.00
HERE WITH CLUES	44.50
IMPERIUM	49.50
MIDWINTER	69.50
NORTH & SOUTH	59.00
OIL IMPERIUM	59.00
OMEGA	69.00
POPULOUS	45.00
POPULOUS DATA	39.00
PORTS OF CALL	49.00
RORKE'S DRIFT	54.50
SHERMAN M4	59.50
SIM CITY	79.00
SIM CITY TERRAIN	39.00
UMS II	69.50
WALL STREET	59.00
WARHEAD	59.50
WATERLOO	59.00

SPORTS

3D POOL	49.00
CYBERBALL	49.50
DAYS OF THUNDER	CALL
FIGHTING SOCCER	59.00
G. NORMAN GOLF	59.50
HARLEY DAVIDSON	59.50
HOCKEY SIMULATOR	49.50
HONDA RVF	49.00
J. NICKLAUS GOLF	59.00
KICK OFF II	59.50
KICK OFF PLR/MGR	49.50
KICK OFF EXP.	39.00
MIC'L WRESTLING II	54.50

HOUD SHADOW	59.00
HUNT FOR RED OCT	59.00
INDIANA JONES ADV	59.00
KHALAAN	59.50
KING'S QUEST IV	59.50
KING'S QUEST TRIPLE	
PACK I/II/III	84.50
KNIGHTS OF CRYST	59.50
LEIS. SUIT I/II (ea)	49.50
LEIS. SUIT III	59.50
LOOM	59.50
MANHUNTER II	69.50
MIGHT & MAGIC II	59.50
MORTVILLE MAN.	39.00
OPERATION STEALTH	59.50
PIRATES	59.50
POLICE QUEST I/II	59.00
POOLS OF RADIANCE	54.50
SHOGUN	69.00
SIERRA HINT BOOKS	15.00
SPACE QUEST I/II	49.00
SPACE QUEST III	49.00
THEME PARK MYST	59.50
THRILL WINNING	69.50
TIME TRAVELLER	59.00
UMS	64.00
UMS SCENARIOS	29.00
UNTOUCHABLES	59.00
XENOMORPH	59.50

FLIGHT SIMS

BOMBER	49.50
BOMBER MISSION	39.50
F16 COMBAT PILOT	49.50
F19 STEALTH F'TER	59.50
F29 RETALIATOR	59.50

----- WP -----

BECKTEXT	135.00
CYGNUS ED PRO	139.00
EXCELLENCE2	299.00
KIND WORDS II	99.00
PEN PAL	189.00
PROTEXT	189.00
PROWRITE V3.0	189.00
PROWR. FONTS (ea)	59.50
SCRIBBLE PLAT.	89.50
TRANSCRIPT	89.50
WORDPERFECT V4.1	449.00
WORDPERFECT LIB	159.00

--- DATA BASE ---

DATA RETRIEVE	99.00
DATA RET. PRO	199.00
DBMAN V	399.00
FREELANCE	49.50
SUPERBASE	69.00
SUPERBASE 2	99.00
SUPERBASE PRO	289.00
SUPERBASE RTM	59.50
YOUR FAM. TREE V2	99.00

----- DTP -----

CITY DESK II	199.00
E-CLIPS (PPAGE clart)	109.00
E-CLIPS VOL 2	109.00
KARA FONTS	79.00
OUTLINE FONTS	269.00
PAGESSETTER II	179.00
PAGESTREAM V2	395.00
PAGESTR. FONTS ea.	54.00
PAGESTREAM FORMS	54.50

THE ACCOUNTANT

WORKS PLATINUM	195.00
----------------	--------

-- GRAPHICS --

3D PROFESSIONAL	549.00
3D TEXT ANIMATOR	79.50
AEGIS GRAPH. ST'R	99.00
ANIMATION STUDIO	249.00
ART DEPARTMENT	129.00
BOARDMASTER PCB	149.00
COMIC SETTER	129.00
COMIC SETT. DATA	49.00
CREDIT TEXT SCROL	59.50
DELUXE PAINT III	99.00
DELUXE PHOTOLAB	99.00
DELUXE PRINT II	99.00
DELUXE VIDEO III	99.00
DESIGN 3-D	129.00
DIGI-MATE 3	59.50
DIGI-PAINT 3	119.00
DIGI-VIEW GOLD 4	269.00
DIGI-WORKS 3D	189.00
DIRECTOR	99.00
DIRECTOR TOOLKIT	59.00
ELAN PERFORMER	89.50
ELAN PERFORMER 2	195.00
EXPRESS PAINT III	149.00
FLOOR PLAN CONST.	78.00
HAM IT UP II	64.50
IMAGINE	395.00
INTRO CAD	99.00
INTROCAD PLUS	179.00
LIGHTS,CAM,ACT	119.00
MODELLER 3D	119.00
MOVIESSETTER	129.00
PAGE FLIPPER +FX	189.00

Your Software Warehouse

HARDWARE

CALL FOR PRICES
AMIGAS
MONITORS
STAR PRINTERS
EPSON PRINTERS
FLOPPY DRIVES
MEMORY BOARDS
HARD DRIVES
ACCELERATOR BOARDS
GVP RANGE
GENLOCKS
NETWORK CARDS

PC EMULATOR BOARDS
JOYSTICKS
MICE
LIGHT PENS
DRAWING TABLETS
HAND SCANNERS
FLATBED SCANNERS
3D GLASSES
DIGITISERS
FRAME GRABBERS
REMOVABLE HARDDISKS
TAPE BACKUP UNITS
SWITCH BOXES
MIDI BOXES
CABLES

FOR ALL ORDERS
OF AMIGA
SOFTWARE OVER
\$50 YOU WILL
RECEIVE
VOUCHERS
THAT ALLOW
YOU TO GET
FREE
AMIGA
SOFTWARE

C64/128

GAMES

BARBARIAN II 39.00
BARD'S TALE (ea) 29.50
BATMAN MOVIE 39.00
BATTLE CHESS 44.00
CABAL 35.00
CHAMPS OF KRYNN 49.50
CHASE H.Q. 35.00
CIRCUS ATTRACT. 39.00
CURSE AZURE BONDS 34.50
DELIVERANCE 39.50
DOUBLE DRAGON II 39.00
E MOTION 39.50
ELVIRA 39.50
EYE OF HORUS 39.00
F14 TOMCAT 44.00
F15 STRIKE EAGLE 39.00
F16 COMBAT PILOT 39.00
FLIMBO'S QUEST 35.50
G. NORMAN GOLF 49.00
HARD DRIVIN' 39.00
HILLSFAR 34.50
HOT ROD 35.50
IRON LORD 49.00
KICK OFF II 39.50
KLAX 39.50
LAST NINJA II 35.00
LEONARDO 39.00
MIC'L WRESTLING 2 39.50
MIGHT & MAGIC 39.50
MIGHT & MAGIC II 39.50
MONOPOLY 39.00
NINJA SPIRIT 39.50
NZ STORY 35.00
POOLS OF RADIANCE 45.50
RAINBOW ISLANDS 39.50
REACH FOR STARS 49.00
SECRET OF THE SILVER BLADES 34.50
SKI OR DIE 29.50
STARLORD 39.00

STREET ROD 39.50
TEST DRIVE II 39.00
TURRICAN 35.50
TV SP. FOOTY 49.00
WALL STREET 39.00
WIZARDRY V 59.50
X OUT 35.50

PRODUCTIVITY

ACTION REPLAY VI 139.00
BLITZ 64 39.00
COBOL 64 59.00
CREATEA CALENDAR 34.50
ELECTRONIC CASH 89.00
FINAL CART III 129.00
FONTMASTER II 64 79.00
GEOCALC 64 39.50
GEOCHART 39.50
GEOFILE 64 39.50
GEOPROGRAMMER 39.50
GEOPUBLISH 49.50
GEOS 64 59.50
GEOS 128 69.50
GEOS INT'L FONTS 39.50
HOME VIDEO PROD. 64.50
MINI OFFICE II 44.00
MUSIC CONST. SET 29.50
NEWSMAKER 128 59.00
PAPERCLIP III 99.50
PAPERCLIP PUB 54.00
POCKET SERIES (ea) 69.00
POWER CARTRIDGE 59.50
PRINTMASTER + 59.00
SUPERBASE 64 59.00
SUPERSCRIP 64 59.00
SWIFTCALC 36.00
THE PRINT SHOP 74.00
TOP 20 TOOLS 39.50
VIDEO BASIC 64 59.00

EDUCATION

CARMEN SD (ea) 64.50
EASY LEARNING (ea) 25.00
FUN SCHOOL 2 (ea) 28.00
MAVIS BEACON 59.00

AMIGA
With over 1400 titles currently available it is impossible to list them all. If you want something you can't see then please ring. We aim to be your Number 1 choice, by being the No. 1 quality AMIGA dealer in Australia.

C64/128

We carry an extensive range and stock for this "everlasting" computer. Phone or write for your free C64/128 catalogue listing over 900 software items, as well as accessories.

IBM PC

We have over 1000 games and educational software products for your computer. Check out our free catalogue.

All prices and availability are subject to change without notice. Some items listed may not have arrived by press time. All software items are shipped surface mail within Australia FREE. All other items are subject to a delivery charge.

**WE WILL MATCH ANY
ADVERTISED SOFTWARE
PRICE IN THIS MAGAZINE**

(SPECIALS EXCEPTED - REMEMBER ALSO THAT WE DON'T CHARGE FREIGHT)

ACCESSORIES

DISKS

3.5" DSDD 19.00
3.5" 120 22.00
BAXX 80 25.00
5.25" 100 18.00
5.25" 140 25.00
AXIOM 19.00
MEMOREX 22.00
PRECISION 19.00
UNBRANDED 10.00
SKC 22.00
XIDEX 26.00
5.25" DSDD 19.00
MEMOREX 11.00
PRECISION 11.00
SKC 11.00
XIDEX 21.00

DISK BOXES

3.5" 80 19.00
3.5" 120 22.00
BAXX 80 25.00
5.25" 100 18.00
5.25" 140 25.00

BOOKS

Over 100 titles for the AMIGA and the C64/128, including the complete ABACUS range for the AMIGA.

RIBBONS

We carry all popular dot matrix printer ribbons.

With EVERY order we'll give you our FREE PriceList. For the AMIGA we have a special PriceList, a 16-page Magazine full of reviews, articles and general snippets of interest. We think it's great reading, and it's FREE.

Your Software Warehouse!

ORDER FORM

Product Name	Computer	Price	Qty

Name _____

Address _____

Daytime Phone () _____

Cheque ☐ Money Order ☐ Visa ☐ Bankcard ☐ Mastercard ☐

Full Card No _____

Expiry Date _____

Signature _____



STD FREE ORDER LINE

008 020 633

(Orders Only - Business Hours Only)

24 HOUR ORDERING LINE

(Answering Machine After Hours)

(06) 293-2233

All Queries (06) 293-2233



FAX (06) 293-1438



Fill out the order form (or write on any piece of paper) and send to -
P.O. Box 1155
Tuggeranong ACT 2900

**INTERLINK
SOFTWARE PTY. LTD.**

**SUPER
STORE**

UNIT 2, 216 COWLISHAW STREET,
TUGGERANONG TOWN CENTRE

The C64 Column

by Owen James

Welcome once again to the Column. Well, there's not a great deal to report on this month in the way of new products. One American advertisement that did catch my attention, though, was the Turbo Master CPU accelerator cartridge.

It promises to take the 64 from its regular 1 MHz clock speed up to 4.09 MHz. That means that everything happens four times faster. Disk speeds up by four times, GEOS works four times faster, BASIC runs four times faster, etc.

Hmm, sounds all right. If you've got a spare two hundred U.S. dollars then you might be interested. I haven't heard of any Australian distributors for the product, but if interested you might be able to contact Schnedler Systems of the U.S. direct on (704) 274 4646 (US number).

Reprogramming Software

As I mentioned in the last compelling column (!) this month's topic is Reprogramming Software. Perhaps your spreadsheet software uses colours that remind you of a Ken Done painting gone horribly wrong, or your spell checking program is riddled with spelling mistakes. Or you are not going to be psychologically complete until you see level three thousand of a difficult shoot 'em up.

Whatever the reason, read on! I hope this article will provide you with some insight into changing commercially written programs to suit your own needs and maybe even into learning to program.

The first thing you need is a machine language monitor. If you haven't one of these then you should seriously consider getting one. Many freeze framer and speed enhancing cartridges have ML monitors built in, which are perfect for what we're about to do.

You may also find it useful to know something about the HEX numbering system. Look at back issues of ACAR for articles on hex.

Let's begin with something simple - like changing the screen colours of a program. Before you go on merrily hacking away at a program you need to know how to reset the computer, and also the restart address of the program to edit.

The first requirement is easy. You can use the reset button on a cartridge, or the more daring of you might like to try your luck with a paperclip (just don't blame me if your 64 tries to re-create the atomic bomb tests!).

Restarting the program is a little more difficult. If it's a game you'll be changing, then look in the entertainment section of magazines like this and you should find pokes for a number of games. The SYStem call that follow the pokes is what you're after.

Now you're set. Armed with an ML monitor, a reset method, and a restart address, you should load the program ready for changing. Once loaded the computer will need to be reset

(unless, of course, the program isn't self-running). Did the computer survive? Good.

Enter the monitor environment in the normal way (eg if using the Warpspeed cartridge then press the PI key, or The Final Cartridge III press F2 etc). Those of you who know a little about BASIC programming will probably know that the screen colour registers are decimal 53280 and 53281 (hex D020 and D021).

Machine language uses the same type of technique of BASIC POKEing except the colour code is loaded into a section of memory called the accumulator before it is dumped into the colour register. Use the ML monitor's HUNT or SEARCH facility to find any occurrence of the command STA #\$D020 (this command may need to be converted into hex operand codes, depending on how the monitor prefers. Aren't fussy monitors a nuisance?).

If all went well you should soon see one or more hex addresses displayed on the screen. If not then try replacing STA with either STY or STX. Write down any addresses the monitor gave you for future reference.

Here comes the real fun! Try disassembling one of the addresses you wrote down (probably with the D key. Check the monitor manual for more info). Somewhere before the STA instruction you should see LDA (or LDX/LDY depending on which STORE instruction you searched for).

You may have to search back some distance. When you finally find it you'll see the hash and dollar sign (\$\$) next to it, followed by two digits. These two digits are hex for the colour code. For example if the screen is to turn black the digits will be 00. If the screen is light blue (code 14) the digits will be 0E after it has been converted to hex.

Change these hex values to whatever colour code you like. Now restart the program with the system call or however else you can. Did the changes take effect? Don't lose heart if it didn't work out.

Check what you have done carefully then try again. Experiment on other programs also. You may have better luck with these.

Changing the text of a program is a very simple process. Load the program then enter the monitor as we did above. This time when you HUNT memory use a text string as the search criteria.

Check the monitor's manual for how to do this. Most monitors have a facility to change the text in memory - like some kind of edit command. If it doesn't then using the addresses the monitor replies with, POKE memory with the ASCII codes that can be found in the back of the C64 manual. Any of you ever bother to actually read the back portion of the manual?

It's not all techno mumbo-jumbo liberally sprinkled with computer buzzwords. Pull off the cobwebs and have a read because it contains some extremely useful information.

If you don't have an ML monitor, the above is probably more than a little uninteresting. For you unfortunate, deprived, disadvantaged (get the idea?) people, here's the way I edited software text before getting a monitor.

First of all, I found a word that had a spelling mistake and looked up the ASCII codes for the letters of the word (time to dust off the manual to find these). For the sake of simplicity, let's say the word we want to find is "at". The code for "a" is 65 and "t" is 84.

You would be REALLY silly to try to find these codes in memory by hand (believe me. I speak from experience!). I wrote myself a short little BASIC routine to do the searching for me.

Here it is with comments listed beside it. Don't include the brackets or what's between them if you use this program.

cont. on page 50

FREEpostage
anywhere in
Australia

LOGICO

s.o.f.t.w.a.r.e

Marrickville Metro
Shopping Centre
Shop 3A / 36 Victoria Rd.
Marrickville NSW 2204
Telephone: (02) 519 5323**AMIGA****ARCADE**

After the War	\$55
All Points Bulletin	\$45
Altered Beast	\$55
American Dreams	\$55
Balance of Power 1990	\$55
Battlehawk 1942	\$55
Battle Squadron	\$55
Battle Tech	\$55
Batman the Movie	\$45
Beverly Hills Cop	\$45
Black Tiger	\$45
Blood Money	\$55
Blood Wych	\$45
Cabal	\$55
Castle Master	\$45
Chase HQ	\$45
Commando	\$45
Continental Circus	\$39
Cosmic Pirate	\$45
Double Dragon II	\$50
Dr. Dooms Revenge	\$55
Dr Plummets	\$65
Dragons Breath	\$55
Dragon Ninja	\$65
Dragon Force	\$85
Dragons Lair II	\$55
Drakken	\$45
Eskimo Games	\$55
Eye of Horus	\$65
F29 Retaliator	\$50
Fallen Angel	\$65
Fiendish Freddy	\$45
Ghostbusters II	\$45
Ghouls n Ghosts	\$65
Gretzky Hockey	\$45
Hard Drivin'	\$55
Heroes Quest	\$55
Highway Patrol II	\$55
Hot Rod	\$45
Hunt for Red October	\$55
Italy 1990	\$45
Indiana Jones Last Crusade	\$65
Indian Jones Temple of Doom	\$55
It Came From the Desert	\$45
Keef the Thief	\$55
Leisure Suit Larry II	\$45
Maniac Mansion	\$45
Moonwalker	\$45
Millennium 2.2	\$45
New Zealand Story	\$55
Ninja Warriors	\$50
North & South	\$55
Operation Thunderbolt	\$45
Outrun	\$55
P47	\$45
Player Manager	\$45
Police Quest	\$55
Powerdrift	\$55
Powerdrome	\$45
Pro Tennis Tour	\$45
Rainbow Island	\$45
Rick Dangerous	\$55
Robo Cop	\$37
688 Attack Sub	\$45
Safari Guns	\$75
Scramble Spirits	\$50
Shadow of Beast	\$45
Shinobi	\$55
Sideshow	\$45
Silkworm	\$79
Skweek	\$55
Space Ace	\$55
Star Wars Trilogy	\$45
Stormlord	\$45
Strider	\$45
Stunt Car Racer	\$45
Super Wonder Boy	\$45
Sword of Sodan	\$75
Teenage Mutant Ninja Turtles	\$55
Thunderbirds	\$55
Tower of Babel	\$45
Turbo Outrun	\$45
Twin World	\$65
T.V. Sports Basketball	\$65
T.V. Sports Football	\$65
Warhead	\$55
Wild Streets	\$55
X-out	\$55
Xenon II	\$45
Xybots	\$45

BUSINESS

Can Do	179 00
Day By Day	55 00
Digal	115 00
Excellence	299 00
Home Accounts	85 00
Pagestream Fonts	55 00
Pen Pal	180 00
Phasar V4 0	119 00
Pro Page V1 3	385 00
Promise	45 00
Pro Text Amiga	185 00
Publishers Choice	189 00
Superbase Personal II	139 00
Superbase Professional V2 03	280 00
Superbase Professional V3 00	280 00
Works Platinum	215 00

EDUCATION

Animal Kingdom	55 00
Associatad	39 00
Decimal Dungeon	65 00
Fraction Action	65 00
Math Blaster Plus	65 00
Math Wizard	65 00
Mavis Beacon Teaches Typing	65 00
Memorise	39 00
Recognise Me	39 00
Shapes And Colors	55 00
Spellbound	65 00
Word Master	65 00

GRAPHICS

Animate 3D	240 00
Bgraphics	269 00
Comic Setter	135 00
Deluxe Paint III	229 00
Deluxe Print II	159 00
Deluxe Video III	159 00
Design 3D	130 00
Digi Paint V3 0	119 00
Express Paint 3 0	139 00
Fusion Paint	95 00
Photon Paint II	180 00
Printmaster Plus	55 00
Rotoscope	115 00

MUSIC

Dr. T's Copyist Pro	389 00
Instant Music	45 00
Midi Magic	199 00
Music X	269 00

**3x MEGA Hits in
one Big Package!!!**

1. Defender of the Crown
2. S.D.I.
3. King of Chicago

Retail : \$55

Formats: IBM & Amiga

COMMODORE 64/128**ARCADE**

3D Pool	\$29
All Points Bulletin	\$29
Altered Beast	\$26
Aust. Rules Football	\$34
Ballistix	\$34
BattleTech	\$26
Batman the Movie	\$29
Beverly Hills Cop	\$26
Black Tiger	\$26
Cabal	\$26
Castle Master	\$29
Chase HQ	\$36
Chessmaster 2100	\$34
Double Dragon II	\$29
Dr Dooms Revenge	\$29
Dragon Spirit	\$39
Dragon Wars	\$26
Dynamite Dux	\$34
F-15 Strike Eagle	\$26
Ferrari Formula One	\$26
Ghostbusters II	\$26
Ghouls n Ghosts	\$26
Hot Rod	\$26
Hunt for Red October	\$26
Indiana Jones Last Crusade	\$26
Iron Lord	\$26
Italy 1990	\$25
Mean Streets	\$26
Moonwalker	\$26
New Zealand Story	\$26
Ninja Warriors	\$39
Omega	\$24
Operation Hormus	\$29
Oriental Games	\$29
Out of This World	\$29
P47	\$29
Pacmania	\$29
Paperboy	\$29
Phobia	\$29
Pipe Mania	\$29
Pirates	\$26
Pool of Radiance	\$26
Powerdirt	\$39
Project Stealth	\$39
Pro Tennis Tour	\$39
Queston II	\$39
Red Storm Rising	\$39
Robo Cop	\$24
Sim City	\$29
Star Trek	\$29
Stormlord	\$29
Stunt Car Racer	\$29
Superstar Soccer	\$26
Turbo Outrun	\$26
T.V. Sports Footy	\$29
Wild Streets	\$29
World Tour Golf	\$35
X-Out	\$29
Xybots	\$39

BUSINESS

Cad 64	\$55
Bank Street Writer	\$29
Data Manager	\$55
Home Banker	\$55
Home Manager	\$55
Maggie Database	\$45
Mini Office II	\$55
Paperclip III	\$55
Partner	\$55
Print Shop	\$45
Print Shop Companion	\$45
Publisher	\$55
Superbase	\$55
Superscript	\$55
Swift Calc	\$55
Tri Pack	\$55
Word Pro	\$55
Word Publisher	\$55
Word Writer	\$55
Video Wizard	\$55

CASS

3D Pool	\$29
All Points Bulletin	\$29
Altered Beast	\$26
Aust. Rules Football	\$34
Ballistix	\$34
BattleTech	\$26
Batman the Movie	\$29
Beverly Hills Cop	\$26
Black Tiger	\$26
Cabal	\$26
Castle Master	\$29
Chase HQ	\$36
Chessmaster 2100	\$34
Double Dragon II	\$29
Dr Dooms Revenge	\$29
Dragon Spirit	\$39
Dragon Wars	\$26
Dynamite Dux	\$34
F-15 Strike Eagle	\$26
Ferrari Formula One	\$26
Ghostbusters II	\$26
Ghouls n Ghosts	\$26
Hot Rod	\$26
Hunt for Red October	\$26
Indiana Jones Last Crusade	\$26
Iron Lord	\$26
Italy 1990	\$25
Mean Streets	\$26
Moonwalker	\$26
New Zealand Story	\$26
Ninja Warriors	\$39
Omega	\$24
Operation Hormus	\$29
Oriental Games	\$29
Out of This World	\$29
P47	\$29
Pacmania	\$29
Paperboy	\$29
Phobia	\$29
Pipe Mania	\$29
Pirates	\$26
Pool of Radiance	\$26
Powerdirt	\$39
Project Stealth	\$39
Pro Tennis Tour	\$39
Queston II	\$39
Red Storm Rising	\$39
Robo Cop	\$24
Sim City	\$29
Star Trek	\$29
Stormlord	\$29
Stunt Car Racer	\$29
Superstar Soccer	\$26
Turbo Outrun	\$26
T.V. Sports Footy	\$29
Wild Streets	\$29
World Tour Golf	\$35
X-Out	\$29
Xybots	\$39

DISK

Alien Addition	\$39 00
Animal Kingdom	\$39 00
Decimal Dungeon	\$39 00
Demolition Division	\$39 00
Fraction Action	\$39 00
Math Blaster	\$55 00
Minus Mission	\$39 00
Number Farm	\$39 00
Speed Reader II	\$45 00
Spell It	\$65 00
Spelling Wiz	\$39 00
Verb Viper	\$39 00
Word Attack	\$45 00
Word Invasion	\$39 00

EDUCATION

Alien Addition	\$39 00
Animal Kingdom	\$39 00
Decimal Dungeon	\$39 00
Demolition Division	\$39 00
Fraction Action	\$39 00
Math Blaster	\$55 00
Minus Mission	\$39 00
Number Farm	\$39 00
Speed Reader II	\$45 00
Spell It	\$65 00
Spelling Wiz	\$39 00
Verb Viper	\$39 00
Word Attack	\$45 00
Word Invasion	\$39 00

GRAPHICS

Awardware	\$38 00
Masterpiece	\$57 00
Print Power	\$47 00
Printshop Graphic Library 1	\$39 00
Printshop Graphic Library 2	\$39 00
Printshop Graphic Library 3	\$39 00
Stop Press	\$75 00

AMSTRAD

CASS.	DISK
Altered Beast	\$26 \$35
Batman the Movie	\$26 \$39
Black Tiger	\$26 \$39
Bubble+	\$26 \$39
Cabal	\$26 \$39
Castle Master	\$26 \$39
Chase HQ	\$26 \$39
Dynamite Dux	\$26 \$39
Fighting Soccer	\$26 \$39
Ghouls n Ghosts	\$26 \$39
Gunship	\$39 \$45
Hard Drivin'	\$29 \$39
Hot Rod	\$29 \$39
Knights Force	\$29 \$39
Microprose Soccer	\$39 \$45
Moonwalker	\$26 \$39
Navy Moves	\$29 \$39
Operation Thunderbolt	\$26 \$39
P47	\$29 \$39
Pipe Mania	\$29 \$39
Pop Pop	\$29 \$39
Rainbow Island	\$26 \$39
Silk Worm	\$26 \$39
Super Wonder Boy	\$26 \$39
Turbo Outrun	\$26 \$39
Tusker	\$26 \$39
Wild Streets	\$26 \$39

ATARI ST

65 Battlehawks 1942	\$55
79 Battleships	\$29
39 Black Tiger	\$55
39 Blood Money	\$55
19 Blood Wych	\$55
29 Castle Master	\$55
57 Chase HQ	\$45
44 Drakken	\$55
89 Gretzky Hockey	\$65
55 Midwinter	\$55
55 Operation Thunderbolt	\$55
75 Pipe Mania	\$45
65 Space Ace	\$55
45 Wild Streets	\$55
79 Xenon II	\$55

IBM

75 Blood Money	\$55
65 Drakken Dual	\$75
65 F15 Strike Eagle 5.25	\$55
65 F15 Strike Eagle II	\$55
48 F19 Stealth Fighter	\$99
Full Metal Planete Dual	\$55
Gunship 5.25	\$55
M1 Tank Platoon	\$55
Pro Tennis Tour	\$45
Sword of the Samurai Dual	\$85

MAIL ORDER FORM Send To: LOGICO SHOP 3a Marrickville Shopping Centre 36 Victoria Rd. Marrickville NSW 2204

PROGRAM NAME	COMPUTER	CASSETTE/DISK	QUANTITY	PRICE

Method of payment: tick for Cheque ☐ Postal Order ☐Tick for Bankcard ☐ Mastercard ☐ Visa ☐ Amex ☐

Credit Card No _____

Valid from _____ Until end _____

Name as per card _____

Signature _____

Delivery to:

Name _____

Address _____

P/code _____

Telephone (____) _____

Date Sent _____

TOTAL \$ _____

POSTAL CHARGE FREE

GRAND TOTAL \$ _____

Phone Orders
02-519-5323**JUST BECAUSE YOU DON'T SEE IT - DOESN'T MEAN WE DON'T HAVE IT !!****UNBEATABLE PRICES**

10 REM MEMORY SEARCH

```

20 A= (put the decimal address to start searching memory
from here)
30 Z= (make Z equal to the end address location)
40 L1=65 (the first ASCII code. If you want to be real clever you
could do the conversion to ASCII code automatic)
50 L2=84 (code for the letter "t")
60 FOR X=A TO Z
70 IF PEEK (X) = L1 THEN 90 (if it finds "a" then check for "t")
80 GOTO 100 (nothing found yet)
90 IF PEEK (X+1) = L2 THEN PRINT "Text found at "X
100 NEXT X (increment the memory it's checking)

```

This is an extremely simple memory search program and you could easily change this to suit your own needs. Once you find the text, it should be just a simple task of POKEing new ASCII values into the text locations.

I put a whole series of routines like this together to make editing easier way back in the days before I had an ML monitor/assembler.

Once you know the address of the text, just POKE in the new ASCII codes. For instance, if we ran the above program and it told us the word "at" was stored in memory location 50000 and 50001 we would type POKE 50000, new ASCII code, POKE 50001, another ASCII code. You can see by this that a really elaborate ML monitor isn't necessary, although it would be a big help.

Most good magazines have a section for game cheats comprising a series of pokes and a system call. Ever wonder how these pokes are found?

Commodore computer PCB exchange service

- ◆ Same day certified mail despatch ◆
- ◆ Three months warranty cover ◆

Amiga 500

\$129

Commodore C64, 64C

\$99

- Simply remove your faulty board from its casing
- Your board must be complete and in serviceable condition.
- Forward your securely packed board together with your remittance to:

P PTY LTD
Parcom

Whites Hill Shopping Village
Samuel Street
Camp Hill, QLD, 4152
Phone (07) 395 2211

BANKCARD/MASTERCARD/CHEQUE/POSTAL ORDER

NAME.....

ADDRESS.....

PHONE.....PC.....

PAY BY CHEQUE..... B/C..... M/C..... Postal Order.....

CARD NO.....

EXPIRY DATE.....

SIGNATURE.....DATE.....

One of the more common types of cheats are those which disable sprite to sprite collision. The sprite collision detect registers are held at 53278 (hex \$D01E). Again, load the game into memory and get into the ML monitor.

Using the HUNT or SEARCH command, find LDA \$D01E (AD 1E D0 if your monitor prefers the data as hex data). Change every address it finds to something like LDA #\$00 with NOP as another instruction to fill out memory a bit.

If you couldn't find LDA \$D01E then try searching for LDX \$D01E (AE 1E D0) or LDY \$D01E (AC 1E D0). If these last two were found then change them to LDX #\$00 NOP or LDY #\$00 NOP respectively. When the game is restarted you should find that you're invincible.

I haven't gone really deep into the subject of reprogramming because time and space doesn't permit, but I hope this is enough to get you started. Remember - EXPERIMENT.

No damage can be done to the software if you don't save the changes back out to disk. Even if your fiddling around with programs doesn't seem to do anything useful you've still learned something...I hope.

If you find you've got some kind of problem or are unsure about any of the above then write to me and I'll try and get back to you as quickly as possible. Please enclose a stamped self-addressed envelope if doing this.

Here's this month's tips, tricks and what-have-you...

If you use some kind of speed enhancing cartridge often then you've probably had the annoyance of having to remove the cartridge because some software doesn't seem to work with it.

Often the cartridge has a KILL type of command which allows the computer to behave as though the cartridge wasn't plugged in. If this isn't the case (like with Warpspeed), then try calling the ROM reset routine.

This is stored at \$FCE2. With the example of Warpspeed you can enter the monitor with the PI key and type G FCE2. This will reset the 64 back to a clean state. Without using a monitor you can type SYS 64738 to achieve the same effect.

You can easily check from within a program if a printer is accessible. The 64 uses a system variable labelled ST. If ST is equal to -128 then the device is inaccessible, otherwise it will be equal to 0. As an example, here's a short subroutine to check if a printer is usable before trying to print.

```

10 OPEN 4,4: PRINT#4
20 IF ST=-128 THEN PRINT "CHECK PRINTER THEN RE-
START":END
30 REM PRINTER MUST BE AWAKE!

```

It surprises me to find that a lot of people don't seem to know about the 1351 mouse's joystick mode. You can use the mouse just like a normal joystick if you hold the right mouse button down as you turn on the 64.

Just prior to the deadline for this column I visited a C64 display down at Auburn. It gave me a great chance to meet some interesting people and find out what they're using their 64s for. I was a bit saddened to hear from one of the organisers about how Commodore seem to have virtually left the 64 for dead.

It appears they're not officially going to kill it off yet, but then it sounds as if Commodore aren't prepared to give it the full support it needs.

Next month I hope to be looking at some of the possible marketing strategies Commodore should take, and also what the future holds for the 64. As always, I want to hear from YOU. Send all your tips, tricks, comments, questions, suggestions, ideas etc to me care of the ACAR, P.O Box 288, Gladesville 2111.

Put Down Your Paint Brushes!! *Put Down Your Pens!!*

BLACK AND WHITE SCANNER

At last, a 400 D.P.I. hand scanner for the Amiga, with variable dither patterns. The CAMERON TYPE 10 is the complete solution for virtually all Desktop Publishing and Graphics problems.

Simply plug the interface into the expansion bus of your Amiga 500, 1000 or 2000, hook up the scanner and you're done! Place a picture on a solid steady surface, select SCAN from the menu and drag the scanner over the picture. As soon as you are finished, the picture is on screen, no lag, no delay, ready to save in standard IFF format. It has a capture width of over 100mm, that's almost half the width of an A4 page!

Now you can produce graphics as good as your ideas.

with

O.C.R. SOFTWARE

The CAMERON TYPE 10 scanner is supplied complete with "HANDY READER" OPTICAL CHARACTER RECOGNITION software. O.C.R. is leading edge software that will convert a scanned image into ASCII characters. No more repetitive typing, no more selecting reference material. Simply scan the document, dress it up and save it ready for importing into your word processor or desktop publisher!

The software is supplied ready to acknowledge a number of fonts, but it can be easily trained to recognise ANY font, EVEN AMIGA GRAPHIC FONTS OR DOT MATRIX PRINTOUTS. R.R.P. \$795.00

COLOUR SCANNER

You want colour, we got colour!

A 4096, H.A.M. mode scanner at a believable price. The TYPE 6 HAND SCANNER can scan in a full colour image in 16 or 35 colour resolution, Extra Half Bright Mode or H.A.M. (4096 colour) mode. The scan time is almost immediate, with most images only taking seconds to be displayed on your monitor in beautiful, glorious living colour. R.R.P. \$1495.00

See Up-Date column P3 for details on demo disks and printouts.



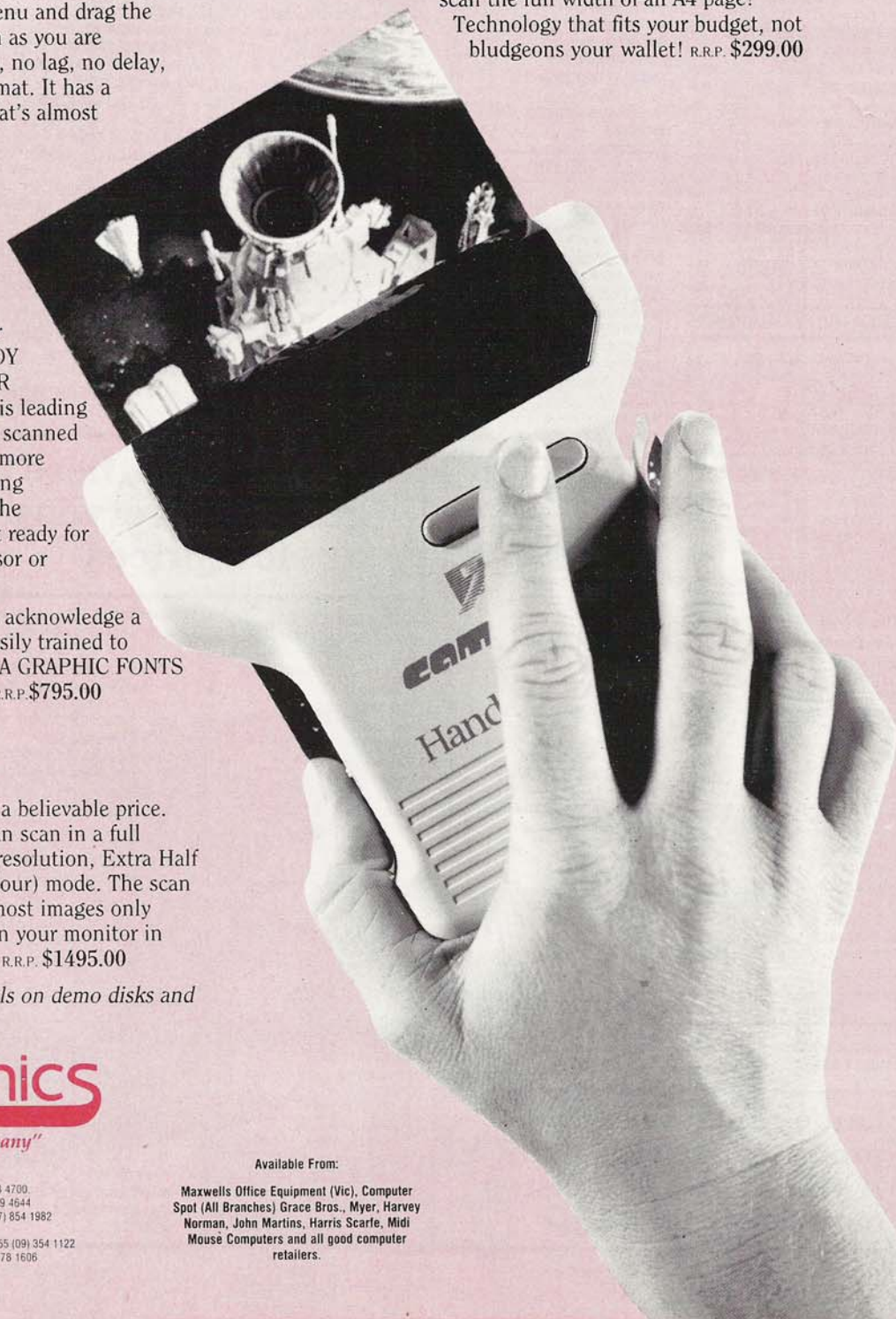
For your nearest retailer please contact:

N.S.W.: Pactronics Pty Ltd, 98 Carnarvon Street, Silverwater (02) 748 4700.
VICTORIA: Pactronics Pty Ltd, 51-55 Johnston Street, Fitzroy (03) 419 4644
QUEENSLAND: Pactronics Pty Ltd, 12 Stratton St, Newstead 4006 (07) 854 1982
SOUTH AUSTRALIA: Contact N.S.W. or Victoria Office
WESTERN AUSTRALIA: Pactronics Unit 13, 113 High Rd, Willetton 6155 (09) 354 1122
TASMANIA: ESP Marketing, 52 Elphinstone Rd, Mt Stuart 2000 (002) 78 1606

IMG SCAN

If hand scanners are out of your price range, consider the IMG SCAN. Using your printer for the mechanicals, the IMG SCAN consists of a fibre optic transmitter and receiver that is attached to your printer head. The software supplied drives the print head to and fro, while the fibre optic cables "read" the image that it is passing over. This means that you can scan the full width of an A4 page!

Technology that fits your budget, not bludgeons your wallet! R.R.P. \$299.00



Available From:

Maxwells Office Equipment (Vic), Computer Spot (All Branches) Grace Bros., Myer, Harvey Norman, John Martins, Harris Scarfe, Midi Mouse Computers and all good computer retailers.

BRIWALL AUSTRALIA

BUSINESS HOURS
Mon to Friday
9AM to 4.30PM

PO BOX 9
RIVETT ACT 2611

24 HOUR SERVICE
PHONE: (06) 288 0131
FAX : (06) 288 0337

AMIGA

GENERAL BUSINESS

ADVANTAGE (THE)	240
ANALYSE 2.0	99
BECKER TEXT	149
CALIGARI CONSUMER	285
CITY DESK V2	225
DATA RETRIEVE (NOT PRO)	90
DESKTOP BUDGET	95
EASY LEDGERS	369
EXCELLENCE	259
HAICALC	72
KARA FONTS	65
KIND WORDS	95
NAG PLUS V3.1	100
P H A S A R V4	129
PEN PAL	185
PRO WRITE V3.0	189
TV TEXT PROFESSIONAL	225
WHO WHAT WHEN WHERE	130
WORD PERFECT LIBRARY	155
WORD PERFECT V4.1	329

CREATIVITY/GRAPHICS

BUMPER STICKER MAKER	72
BUSINESS CARD MAKER	59
DELUXE PAINT 111	199
DELUXE PHOTO LAB	205
DELUXE PRINT 11	110
DELUXE VIDEO 111	169
DESIGN 3D	109
DIGIMATE 3	49
DIGIPAIN 3	119
DIGIVIEW GOLD V4	269
DIGIWORKS 3D	169
DIRECTOR	95
DIRECTOR TOOLKIT	52
ECLIPS	129
EXPRESS PAINT III	149
FAMILY TREE (YOUR)	65
FANTAVISION	75
INTRO CAD	99
INTRO CAD PLUS	195
MEDIA LINE ANIM	
BACKGROUNDS	20
MEDIA LINE CLIP ART DISC	20
MEDIA LINE FONT DISC	20
MODELLER 3D	115
MY PAINT	65
OPTICKS	259
PHOTON PAINT 11	189
PIXEL SCRIPT 1.1	189
PIXMATE	95
PRINTMASTER PLUS	55
PROFESSIONAL DRAW 11	299
SCULPT 4D JNR	219
TURBO SILVER	240
ULTRA CARD	69
VIDEO SCAPE 3D V2	219
ZOTROPE	169

EDUCATION

ANIMAL KINGDOM	59
BARNEY BEAR TO SCHOOL	34

BARNEY BEAR TO FARM	34
CHICKEN LITTLE	35
KINDERAMA	65
LINKWORD FRENCH	43
LINKWORD GERMAN	43
LINKWORD ITALIAN	43
LINKWORD SPANISH	43
MATH TALK	44
MATH TALK FRACTIONS	44
MATH WIZARD	59
MAVIS BEACON TYPING	70
READ & RHYME	65
READ A RAMA	65
SMOOTH TALKER	55
THREE BEARS	35
WHERE C. SANDIEGO - EA	65
WORLD ATLAS	85

MUSIC

BARS & PIPES	375
DELUXE MUSIC CONST.	139
DR T COPY APP	145
DR T COPY PROF	359
DR T MIDI RECORD STUDIO	89
DR T TIGER	199
DR T TIGER CUB	129
FUTURE SOUND	229
MASTER TRACKS	539
MUSIC X	389
PERFECT SOUND A500	139
PIXSOUND	110
SONIX	95
SONIX SOUNDTRACKS	29

BOOKS/UTILITIES

AMIGA C FOR ADVCD PROG	45
AMIGA C FOR BEGINNERS	30
AMIGA HARDWARE REF REV	40
AMIGA PROG HANDBK VL 1	45
AMIGA TIPS & TRICKS	40
KIDS AND THE AMIGA	30
AC BASIC V1.	259
AMAX	249
AMAX & CHIPS	529
AMI ALIGNMENT	49
AMI KIT	58
AREXX	65
ASSEMPRO	143
AZTEC C DEV PAK V5	375
AZTEC C PROF PAK V5	305
B A D	65
BENCHMARK MODULAR 2	269
BUTCHER 2.0	49
CLI MATE	59
CROSS DOS	45
DISK 2 DISK	59
DISKMASTER	69
DOCTOR AMI	49
DOS 2 DOS	65
DUNLAP UTILITIES	95
FAT TRACKS	79
GP TERM	99
HISOFT PROFESSNL BASIC	215
LATTICE C V5.04 DEV PAC	429
LATTICE C ++	490
POWER WINDOWS	115
PROJECT D V1.1	69

QUARTERBACK	84
RAW COPY	79
SUPERBACK	99
TRUE BASIC	139

GAMES/ADVENTURES

3D POOL	45
AAAAARGH	55
ADVENTURES OF SINBAD	59
ADVENTURES THRU TIME	59
AESOPS FABLES	59
AFTERBURNER	59
ALIEN SYNDROME	55
ALL DOGS GO TO HEAVEN	59
ALTERED BEAST	59
ANNALS OF ROME	45
AQUA VENTURE	45
AQUANAUT	50
ARCHIPELAGOS	45
ARTURA	45
AUNT ARTIC ADVENTURE	45
AUTO DUEL	64
BAAL	40
BAD DUDES	50
BALANCE OF POWER 1990	59
BALLISTIX	45
BATMAN THE MOVIE	60
BATTLE CHESS	59
BATTLE HAWKS 1942	59
BATTLE SOADRON	45
BATTLETECH	59

**Check out these
genuine everyday
low prices**

BEYOND DARK CASTLE	45
BLACKJACK ACADEMY	45
BLITZKREIG ARDENNES 1mg	65
BLITZKREIG ARDNES 512K	49
BLOCKOUT	49
BLOOM MONEY	49
BLUE ANGELS	49
BRAIN BLASTER	50
BREACH	49
BREACH 2	59
BRIDE ROBOT HINT SHEETS	5
BRIDE OF THE ROBOT	39
BRIDGE 6	59
BUBBLE BOBBLE	29
BUBBLE GHOST	45
BUDOKAN	49
CAPONE	45
CAPTAIN BLOOD	59
CLUE MASTER DETECTIVE	49
DAMOCLES	50
DARK CENTURY	50
DARK SIDE	49
DAY OF THE VIPER	59
DEATH SWORD	35
DEFENDER OF THE CROWN	59
DESCARTES	49
DESIGNASAURUS	59
DESTROYER	29
DISTANT SUNS	78
DOUBLE DRAGON II	50
DOWN HILL CHALLENGE	59
DR DOOM'S REVENGE	49
DRAGONS LAIR II Singes Cas	85
DUNGEON MASTER	50
EARL WEAVER BASEBALL	62
EBONSTAR	55

**Friendly service with technical
support. Phone or use our
coupon for our free catalogue
listing our full range of products.**

EYE OF HORUS	50	PLANET OF LUST	39
F16 COMBAT PILOT	55	PLANET OF LUST HINT SHT	5
F18 INTERCEPTOR	59	POW	49
F40 PURSUIT SIMULATOR	52	PRO FOOTBALL SIMUL	43
FAERY TALE	59	PRO SOCCER	49
FAERY TALE CLUE BOOK	25	PRO TENNIS TOUR	49
FALCON	54	PUZZNIC	45
FALCON SCENERY	40	REACH FOR THE STARS	49
FAST BREAK	55	RENEGADE	29
FEDERATION	59	RICK DANGEROUS	45
FIRE POWER	35	ROMANCE OF 3 KINGDOMS	79
FIRE ZONE	39	SAVAGE	55
FLIGHT SIMULATOR II	65	SCRABBLE	49
FLIGHT SIM SCENE DISCS	37	SEX VIXENS FROM SPACE	39
FLOOD	49	SEX VIXENS HINT SHEETS	5
FOURTH & INCHES	25	SHADOW OF THE BEAST	59
FUTURE WARS	65	SHARK ATTACK	49
GALACTIC INVASION	29	SHINOBI	59
GAUNTLET 2	65	SHUFFLEPUCK CAFE	49
GRAND PRIX RACING	65	SIDE ARMS	49
HERO'S QUEST	65	SIDE SHOW	59
HOLLYWOOD STRIP POKER	45	SILENT SERVICE SUB SIMUL	29
HONDA RVF	49	SIM CITY	65
		SIM CITY TERRAIN ED	29
		SINBAD THRONE FALCON	35
		SOLITAIRE ROYALE	45
		SORCERIAN	69
		SPACE ACE	69
		SPACE ROGUE	59
		SPACE STATION OBLIVION	29
		SPEEDBALL	57
		STAR TREK V	59
		STAR WARS	59
		STORM ACROSS EUROPE	69
		STREET ROD	59
		STRIP POKER II	55
		STUNT TRACK RACER	55
		SUPER HANG ON	59
		SWORD OF ARAGON	59
		T V SPORTS BASKETBALL	59
		TABLE TENNIS	49
		TEENAGE MUTANT NINJA TS	59
		TEMPLE OF DOOM	55
		TERROR PODS	55
		TEST DRIVE	55
		TEST DRIVE II SCENE DISCS	35
		TETRIS	49
		THEIR FINEST HOUR	69
		THREE STOOGES	59
		THUNDER BLADE	59
		TIMES OF LORE	50
		TOM AND JERRY	35
		TOTAL ECLIPSE	50
		TUNNELS OF ARMAGEDDON	55
		TURBO OUTFUN	65
		TV SPORTS FOOTBALL	59
		TWILIGHT ZONE	55
		UFO	59
		VAMPIRE'S EMPIRE	55
		VIDEO VEGAS	50
		WAR IN MIDDLE EARTH	65
		WATERLOO	65
		WEIRD DREAMS	55
		WINGS	59
		WORLD TOUR GOLF	29
		WWF WRESTLG GME MTCH	55

**Large range of Amiga
products growing daily.
If you don't see it listed
contact us for help.**

C64/128**GENERAL BUSINESS**

DATA MANAGER 64	40
GEOS 128 V2	89
GEOS 64 V2	80
GEOS SUPPORT PRGS FR	45
PARTNER 64	60
POCKET FILER 2	65
POCKET PLANNER 2	65
POCKET SUPERPACK	145
POCKET WRITER	65
POCKET WRITER 3 128	89
POCKET WRITER 3 64	89
SUPER/BASE, S/SCRIPT, BK 128 PK	130
SUPER/BASE, S/SCRIPT, BK 64 PK	110
SUPERBASE 128 V3	90
SUPERBASE 64	59
SUPERSCRIPT 128	80
SUPERSCRIPT 64	59
TECH ANALYSIS SYST 128	85
TECH ANALYSIS SYSTEM 64	55
WRITE STUFF 128 w/spellcheck	49
WRITESTUFF 64 w/spellcheck	40
WRITE STUFF 64 w/talk	49

CREATIVITY/GRAPHICS

AWARD MAKER PLUS 64	60
---------------------	----

BUMPER STICKER MAKER	39
BUSINESS CARD MAKER	39
BUTTON & BADGE MAKER	60
CADPAK 128	95
CADPAK 64	63
CERTIFICATE MAKER	35
CERTIF MAKER LIBR DISC	30
COLOREZ 128	22
COMPUTER EYES	190
DOODLE 64	60
FLEXIDRAW 5.5	60
FLEXIFONT 64	45
FONTMASTER 64	65
HOME DES CRCT SYM LIB	19
HOME DESIGNER 128	59
ICON FACTORY 64	30
MUPPETS PRINT KIT	43
NEWSMAKER 128	39
NEWSROOM	25
NEWSROOM CLIP ART	85
PAPERCLIP 3	54
PATERCLIP PUBLISHER	36
PHOTO FINISH	40
POSTER MAKER 128	57
PRINTMASTER PLUS 64	65
PRINTSHOP 64	43
SCREEN FX	39
SKETCHPAD 128	49
SPECTRUM 128	49

EDUCATION/MUSIC

LINKWORD FRENCH	39
LINKWORD GERMAN	39
MAVIS BEACON TYPING	59
STICKYBEAR ABC'S, MATH ETC	35
WHERE C. SANDIEGO (EA)	59
DR T KCS 128	325
CHRISTMAS CLASSICS	15
SCOTT JOPLIN RAGTIME	9
BIBLE SEARCH KJV NEW TEST	40
BRIDGE 5	43
FAMILY TREE 64/128/LDS	86

ACCESSORIES/BOOKS

64K VIDEO RAM UPGRADE CART, FULL	90
64K VIDEO RAM UPGRADE CHIPS	50
APROSPAN 4 SLOT CART HOLDER	50
COVERS (VARIOUS) FROM	13
FINAL CARTRIDGE III	110
500 C128 QUESTIONS & ANSWERS	40
BASIC 8 HOW GET MOST BK & DISC	35
C128 INTERNALS BOOK	45
C128 TIPS AND TRICKS	45
C128 TROUBLESHOOT & REPAIR	45
DISKS FOR BOOKS	25
KRACKER JAX REVEALED 1 2 & 3	35
SUPERBASE THE BOOK	40

BRIWALL AUSTRALIA

We stock the largest range of
64/128 products in Australia. Ask
for our free catalogue TODAY.

UTILITIES

1541/1571 DRIVE ALIGNMNT	44
1581 TOOLKIT V2	60
BASIC 8	48
BASIC 8 TOOLKIT	29
BASIC COMPILER 128	80
BASIC COMPILER 64	90
BIG BLUE READER	65
COBOL 64	58
COBOL 128	58
CPM KIT	55
DIGITALKER 128	39
GNOME SPEED COMPIL 128	35
MAVERICK COPIER V5	50
MERLIN 128	100
MERLIN 64	72
RAM EXPANDER 1750	429
SUPER 64 LIBRARIAN	25
SUPER 81 UTILITIES 128	35
SUPER 81 UTILITIES 64	35

SUPER AIDE 64	35
SUPER DISK LIBRARIAN 128	35
SUPER DISK UTILITIES 128	35
SUPER PASCAL 128	85
SUPER PASCAL 64	85
SUPER SNAPSHOT V5	93
SUPER SNPST V5 + DISABLE	110

GAMES

BATMAN THE MOVIE	35
BLUE ANGELS	43
DOUBLE DRAGON II	39
EYE OF HORUS	37
F14 TOMCAT	44
LORD OF THE RISING SUN	39
MONOPOLY	39
SEX VIXENS FROM SPACE	30
SIM CITY	39
WHEEL & DEAL	19
WHEEL OF FORTUNE 2	19

ORDERS: Please make cheques payable to "Briwall Australia" and mail order to PO BOX 9, RIVETT, ACT 2611.
All in stock items shipped same day. Please allow 14 working days for delivery of out of stock items.
Should your product be faulty please return disk only and copy of receipt for immediate free replacement.
COD also available. Prices are subject to change without notice.

NAME.....PH (.....).....
ADDRESS.....
CITY.....STATE.....POSTCODE.....COUNTRY.....
DESCRIPTION.....QUANTITY.....EACH.....TOTAL.....

BK/CARD/MASTERCARD/VISA NO:.....EXPIRY DATE.....
Cheques payable to Briwall Australia
SIGNATURE.....
COMPUTER TYPE:.....
SUB-TOTAL.....\$.....
POSTAGE.....\$ 4.00.....
GRAND TOTAL...\$.....

For complete list of products & prices, please tick AMIGA () C64/128 ()

QUALITY PRODUCTS AT REASONABLE PRICES

COMPUTA MAGIC
5/30 HALL STREET
MOONEE PONDS VIC
03 326 0133

FROM M.V.B. COMPUTER SUPPLIES
506 DORSET ROAD
CROYDON VIC
03 725 6255

AMIGA

A500 STARTER KITS
A2000 B REV 6.2
A590 HARD DRIVES

C64

TEST PILOT PACKS
SOFTWARE
ACCESSORIES
FREEZE CARTRIDGES
FASTLOADERS

**CITIZEN**

Printers that run like clockwork

9 PIN BLACK
9 PIN COLOUR
24 PIN COLOUR

GOLDEN IMAGE

512K RAM EXP WITH
SWITCH
OPTICAL MOUSE WITH PAD
35 TRACK DISPLAY DRIVE



A500 HARD DRIVES
A2000 HARD DRIVES
68030 ACCELERATORS

PLUS

BOOKS
MAGAZINES
SOFTWARE
ACCESSORIES
DISKS 3.5 & 5.25

CALL FOR PRICES ON ALL PRODUCTS

- BONUS - SPEND \$10.00 AND BUY 10 3.5 DISKS FOR \$9.85
WHILE STOCKS LAST

The Geos Column

by Bruce Lyon

This month we'll be covering the GEOS file system in the programmers section, an integral part of just about any program that uses data. In the user section, we'll be covering RAM expanders, pointing devices (mice etc), and a brief run down on telecommunications under GEOS!

Don't forget, if you have any questions about GEOS, whether they be technical or otherwise, that you would like answered, please write to the editor of ACAR and I will answer them for you. Alternatively, mailbox me direct on Discovery 40 (Viatel) MB 498730650.

User Issues

When you first unpack any GEOS software product, you will generally open the manuals, and read a section early on about minimum hardware requirements, and recommended additions.

The creators of GEOS, Berkeley, recommend two key items for GEOS to enhance its use. The famous 17xx RAM expander, and the 1351 mouse. Unfortunately, the 17xx RAM expander has never been officially supported as a product by Commodore Australia, and not everyone has a 1351 mouse (which costs over \$70).

It's no secret that you can easily purchase a model 1764 RAM expander from overseas, or perhaps from an Australian mail order house, if you're lucky. Of course, you cannot expect local service backup, and Commodore US may take their time about servicing. Despite these risks, the RAM expander is a worthwhile add-on. In fact, GEOS was partly designed around its eventual release.

The RAM expander contains 256K of RAM, that's four times the total on-board

a standard C64, all in a plug-in cartridge that plugs into the cartridge port of the C64 (the righthand side/larger port). It draws its power from the C64's normal 5V supply. With later model C64's (post 1987) there seems to be no problem running the unit on the Australian power supply. I.e: you don't appear to need a beefed up power supply, just the one that comes standard with your C64. This fact has been mentioned on several occasions in this magazine over the last few years.

I personally have been running a RAM expander with GEOS for two years now and haven't had an ounce of trouble. I know of five other people who all have C64 RAM expanders and haven't heard a single complaint.

GEOS contains all the necessary code to run the expander. Essentially, the RAM expander simply looks to the software as another disk drive. The big difference is that RAM is hundreds of times as fast as a real 1541 floppy, and runs lightning fast. Of course being RAM, when the power is off there is no mass storage on a RAM drive, so you must always save back to a real 1541 at some point. A good trick is to run your application code on the RAM drive, with your data on your real drive. The GEOS manuals all document suggestions about different setups to suit your requirements.

I would recommend the extra investment in a RAM drive if you use GEOS heavily for graphics purposes, desktop publishing, or database work. That is, if you're considering extra disk drives, consider a RAM drive.

You may have also have noticed that there is a new 512K RAM expander being released now in the US by Berkeley. Check with your local Australian distributor for when they will be stocking this item. There is an increasing number of quality mail order houses that offer the C64 owner access to all the latest software from the US, including GEOS offer-

ings (software and hardware!).

Now about the mice...joysticks are fine! If you have a few of the readies (know what I mean as Arfa would say), a 1351 mouse gives you position sensitive mouse positioning. This basically gives a much tighter and faster response to the GEOS graphics interface. As good as the Amiga, as far as that score goes. It's a question of priorities.

Now about telecommunications - you may not know it but there is at least one 'public domain' program available that gives terminal emulation with file transfer capabilities under GEOS, ie : you don't have to leave the GEOS operating system, and runs a full GEOS user interface. I came across this package from a British magazine, and it works wonderfully. I want to research this further before I say for certain its public domain. It was available from a magazine disk service. Stay Tuned!

I was going to talk about 1571 and 1581 disk drives this month, but space doesn't permit, so I'll leave that till next time.

Programmer's Corner

The GEOS file system is many things for many purposes. Its main purpose is to provide an appropriate set of library routines for mass data storage. These are several major points that are quite innovative and distinctive in design about the GEOS file system.

GEOS includes a built in 'fast loader' and 'fast saver' for ALL files it runs. This is known technically as diskTurbo - quite appropriately. These routines operate at the block or sector level under virtually all circumstances (except large non-GEOS sequential files).

Berkeley claims a general speed improvement of 5 to 7 times. How much have you paid in the past for various fast loaders that use hardware to achieve this?

Berkeley have this built into EVERY program from the ground floor up!

The GEOS file system can handle GEOS special files called VLIR (variable length indexed record), as well as normal Commodore DOS files. Remember, you can still run ANY C64 program from within GEOS. GEOS will automatically revert to BASIC to load non-GEOS programs with diskTurbo if they are not too big!

The GEOS file system routines are or

ganised into "levels" of likely use - high, medium and primitive. Most of the time you will use high level file system routines, such as OpenDisk, GetFile, ChkDkGEOS, SaveFile, DeleteFile and so on. This allows access at the 'file' level of data. The intermediate level routines give more block oriented features, used to implement the high level file system calls by the GEOS operating system. This includes routines such as GetBlock, PutBlock, ReadFile, WriteFile, BlockAllocate, FreeBlock, FastDeleteFile etc. You get the flavour of access from the names!

The third level (lowest) are definitely for the intrepid, and for completeness only, are InitForIO, DoneWithIO, PurgeTurbo, EnterTurbo, ReadBlock, WriteBlock. You should needn't to access the primitives, except in unusual circumstances. I refer you to the Programmers Reference Guide Chapter 16 for more details on this if required.

Now to describe briefly the VLIR system. The basic file types GEOS uses are either sequential (ie up to 128 blocks of sequential data using the standard Commodore sequential track and sector scheme), or VLIR.

VLIR files are simply extension of plain sequential files, in that one VLIR file has a one block index table giving access to 127 track and sector pointers. Each pointer is the start of a sequential linked list of blocks, up to 127 blocks long. Thus a VLIR file can be a maximum 127*127 16000 blocks access, well beyond the 1541 storage capability.

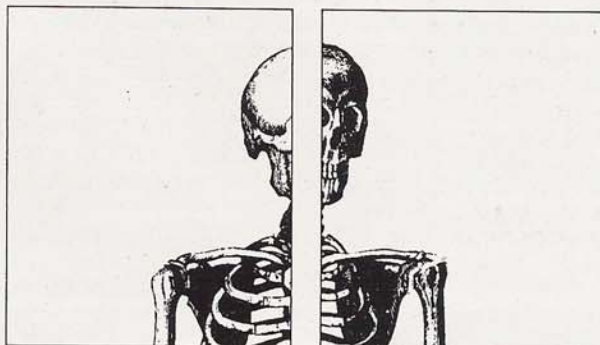
Each sequential chain of blocks in VLIR can be any length, and is referred to as a record. The application must provide sufficient memory to hold at least one record. Only one VLIR file can be open at any time. The VLIR routines allow discrete 'record' access to data eg: previous record, next, etc. You can directly access a specified one of 127 'sequential records'. Within a given record, you must search sequentially.

Thus you will perhaps understand my comments last month at the close of the column, that you have a compromise file system that gives you fast access to individual parts of the file, and sequential access within a record.

VLIR files can be used for all sorts of purposes. Eg *geoWrite* uses one sequential record per page, up to 60 pages per file (document). *GeoFile* uses more than one *geoFile* record per VLIR 'record'.

Applications can use VLIR records to hold code 'overlays' as mini-sequential programs. I covered overlays in an earlier issue. Essentially, a base resident control program can use the record oriented VLIR routines to load the overlays into memory as required, meaning very large programs can run, inside 32K! Now with a RAM expander, can you begin to see the possibilities?

Next month, we'll look in some more detail at Icons, Menus, and event driven programming. Till then, enjoy GEOS productively!



Version 6

The first in a new series of integrated C64/C128 hardware products from CMD

JiffyDOS

Give your system a new lease on life and the power to compete with today's newer, more expensive magazines

- Ultrafast multi line serial technology. Enables JiffyDOS to outperform cartridges, Back Roms, Turbo Roms and Parallel Systems - without any of the disadvantages.
- Speeds up all disk operations Load, Save, Format, Scratch, Validate, access PRG, SEQ, REL. USR \$ direct access files, up to 15 times faster!
- 100% compatible - or your money back. Guaranteed to work with all your hardware and software, including copy-protected commercial programs.
- Uses no ports, memory or extra cabling. The JiffyDOS Roms upgrade your computer and drive(s) internally for maximum speed and compatibility.
- Easy installation. No electronics experience or special tools required.
- Supports C64, 64C, SX64, C128, C128D, 1541, 1541C, 1541-II, 1571, 1581 and more.
- Can be completely switched out. If ever necessary, the flip of a switch returns you to a 100% stock configuration - without resetting or powering down. Built-in DOS Wedge. Plus 17 additional commands and convenience features. including file copier, screen dump, directory menu, and single-key load/save/scratch.

Available for C64, 64C, SX-64, C-128 and C-128D (JiffyDOS/128 speeds up both 64 and 128 modes), and 1541, 1541C, 1541II, 1571, 1581, FSD-1&2, MSD SD-1&2, Excel 2001, Enhancer 2000, Amtech, Swan, Indus & Bluechip disk drives. System includes ROMs for computer and 1 disk drive, stock/JiffyDOS switching system, illustrated installation instructions, User's Manual and Money-Back Guarantee.

RETAIL PRICE LIST

ITEM	DESCRIPTION	RETAIL
JIFFY DOS 64 SYSTEM	SPEED ENHANCEMENT SYSTEM FOR C64	\$99.00
JIFFY DOS 128 SYSTEM	SPEED ENHANCEMENT SYSTEM FOR 128	\$129.00
JIFFY DOS ADDITIONAL ROMS	ADDITIONAL KERNAL/DRIVE ROMS FOR J/DOS	\$50.00
POWER CARTRIDGE	PROGRAMMING TOOL FOR C64	\$49.95
TURBOMENU CARTRIDGE	FAST LOAD CARTRIDGE C64/128	\$44.95
PARALLEL CABLE 1541	1541 PARALLEL CABLE	\$32.95
PARALLEL CABLE 1571	1571 " " " "	\$32.95
RESET 64	RESET CARTRIDGE C64	\$14.95
C.M.D. 20MB DRIVE	20 mb HARD DRIVE(SUIT 64/128 ONLY)	ENQUIRE
C.M.D. 40mb DRIVE	40 mb " " " "	"
C.M.D. 100mb DRIVE	100mb " " " "	"
DRIVE DOCTOR	DRIVE ALIGNMENT KIT FOR 1541/1571	\$42.95
DATASETTE DOCTOR	DATASETTE ALIGNMENT KIT FOR C64	\$29.95
DOCTOR CARTRIDGE	DIAGNOSTIC CARTRIDGE FOR C64	\$54.95
EXPERT CARTRIDGE 3.2R	BACK-UP CARTRIDGE (MANY FEATURES)	\$115.00
EXPERT V4.1R DISK	ENHANCEMENT DISK FOR ABOVE	\$29.95
AMIGA STEREO DIGITISER	SOUND SAMPLER A500/2000	\$110.00
AMIGA MINI-AMP (LESS PSU AND SPEAKERS)	PERFECT SOUND BOOSTER FOR COMPUTERS	\$105.00
PRINTER ADAPTOR	PRINTER ADAPTOR FOR STEREO DIGITISER	\$49.50
BMC CORDLESS MOUSE	INFRA-RED CORDLESS MOUSE (AVAIL FOR AMIGA/IBM/ATARI/APPLE)	\$149.00
AMIGA ACTION REPLAY	FREEZER-UTILITY CARTRIDGE FOR AMIGA	\$199.00
A500 PC EMULATOR	MAKE YOUR A500 MS DOS COMPATIBLE	ASK
AMIGA KICKSTART	NOW AVAILABLE	
	KICKSTART SWITCH 1.2/1.3 WB	
	" " BOARD ONLY	\$57.00
	" " 1.2 WB INSTALLED	\$89.00
	" " 1.3 WB INSTALLED	\$99.00
AMIGA MID-INTERFACE	MUSICAL DIGITAL INTERFACE FOR A500	\$120.00

CALL US FOR ANY SOFTWARE/HARDWARE REQUIREMENT

BANKCARD * VISA * MASTERCARD
and all Major Credit Cards

Most orders are despatched within 48 hours, but please allow up to 14 days for difficult delivery

HPD Pty Ltd, 5-7 Railway Terrace, Dry Creek, SA 5094
PO Box 121, Dry Creek, SA 5094
Phone: (08) 349 8486 Fax (08) 349 4667

WHO **WANTS** TO BE AT YOUR **SCHOOL**
SO **MUCH** THEY'VE **SPENT** OVER
HALF A MILLION **DOLLARS** DEVELOPING
EDUCATIONAL **SUPPORT** MATERIAL?



Commodore computers, from the extraordinarily versatile Amigas to the totally MS-DOS compatible PC range, have always been exceptional value for money.

Which makes them an extremely attractive proposition for schools.

Now, with over half a million dollars invested in the development of educational support material, they

are even more so. For more details, call this number, free: 008 023 233.


Commodore

TOTALLY COMMITTED TO EDUCATION

Sponsors of the 1990 World Conference on Computers in Education.

THE AMIGA 500 PC/XT IS HERE



**RUN PROFESSIONAL
MS DOS SOFTWARE
ON YOUR AMIGA 500
AT A PRICE YOU CAN AFFORD**

KCS POWER PC BOARD

WHY DID YOU BUY AN AMIGA 500?

Of course, because of its superb graphics, music and animation capabilities. However if you want to get serious, you soon realise that it is distinctly lacking in memory and professional software.

Well - They Said It Could Never Happen - But It's Here At Last!

You! In your own home can transform your Amiga 500 into a real IBM compatible PLUS up to **ONE AND A HALF MEGABYTE** Amiga memory expansion.

It's simple - No screwdriver, no soldering iron and no technical knowledge required. Just turn your Amiga over, open the cover, slide the Power PC Board into the connector, close the cover and your Amiga PC/XT is ready. (In other words, no loss of guarantee)

You are now ready to use a wealth of professional MS DOS software at speeds faster than a PC/XT (ind. review). **and in colour**, with compatibility thanks to Phoenix-Bios.

You can also rely on the correct date and time at any moment in Amiga and MS DOS mode (with the aid of a battery).

- ★ Video support: monochrome, Hercules and Colour Graphics Adaptor (CGA) (4 and 8 colours)
- ★ Disk support: internal 3.5" external 3.5" external 5 1/4" drive. (Software-upgrade to H/D A590 in pipeline)
- ★ Including MS DOS 4.01, MS DOS shell and GW Basic (market value approx £130.00)
- ★ Including English Microsoft books + KCS manual + FREE software
- ★ Further exciting software upgrades in the pipeline

- ★ Available memory: 704KB + 64KB EMS in MS DOS mode, 1 megabyte + 512KB RAM (disk) buffer in Amiga mode
- ★ No extra power supply necessary thanks to the most modern CMOS and ASIC technology
- ★ OK with TV. No special monitor required

Compatibility is excellent, but no-one can guarantee every single program available therefore if your purchase depends on a particular program, please ask us first or send in a copy of the program. (With suitable S.A.E. if to be returned). Price subject to change without notice.

★ OFFICIAL DISTRIBUTOR FOR K.C.S. ★

HPD Pty Ltd
5-7 Railway Terrace, Dry Creek, SA 5094
PO Box 121, Dry Creek, SA 5094
Phone: (08) 349 8486 Fax (08) 349 4667

DEALER ENQUIRIES WELCOME

Pushing redefined characters to the limit, this month we explore Multicolour definitions and then move onto high resolution bit-mapped graphics.

C64 - Sound

Until now we have only discussed characters in the "standard colour mode", where each dot on the screen may be displayed in a specific character colour or the background screen colour. The "multicolour mode" allows each dot to be in one of four colours, the background screen colour, or one of three other selected colours.

The multicolour character mode is made complicated by a number of factors, not least the problems of screen resolution and colour matching on different TVs or monitors. Multicolour mode characters may be useful to you once you've mastered the art of standard mode programmable characters. However, as their programming is one of diminishing returns, a great deal of preliminary pencil and paper work is required before getting to the keyboard. Therefore, we will only deal briefly with the topic.

Multicolour character mode is controlled by bit 4 in the VIC II register at 53270. It is turned on by setting this bit to 1 by the following statement

```
POKE 53270, PEEK(53270) OR 16
and turned off by setting this bit to 0 with
POKE 53270, PEEK(53270) AND 239
```

Once the multicolour mode has been enabled, each character on the screen may be displayed in either multicolour or standard mode. This is decided for each screen position by the value in the associated colour RAM location (55296-56295). If the value is 0-7, colours selected by the CTRL and Colour key combinations, the character is displayed in standard mode. If the value is 8-15, colours selected by the C= and Colour key combinations, the character is displayed in multicolour mode. This corresponds to setting bit 3 of the colour RAM location to 1 (bit 3 has a value of 2^3 or 8), meaning that multicolour or standard mode can be selected simply by printing the character(s) in the appropriate colour.

Exercise

Let's see how this works. First press RUN/STOP and RESTORE then enter the following:

```
NEW
10 POKE 53270, PEEK(53270) OR 16
20 PRINT "[<YEL>]THIS IS MULTI-Colour"
30 PRINT "[BLK]THIS IS STANDARD MODE"
```

Multicolour character mode is enabled in line 10. Line 20 selects a colour value of 15 to print the string in multicolour mode while line 30 selects a colour value of 0, giving standard mode. To look further at multicolour character mode, we must look at how the characters patterns are actually created.

For characters in multicolour mode, the horizontal resolution of each character is effectively reduced by half, to four dots. Each dot is composed of two screen pixels. Since each character is defined by an 8 X 8 grid of bits, each of these pixel pairs is coded by two bits. You should remember from Chapter 1, section 1.4, that with two bits four combinations are possible. Each of these combinations is used to encode colour information by:

Type	Bit Pair		Colour Register	Location
	left	right		
A	0	0	screen colour (background # 0)	53281
B	0	1	background # 1	53282
C	1	0	background # 2	53283
D	1	1	bits 2-0 in colour RAM	55296-56295

Colours generated by the first three combinations (A-C) come from specific background colour registers (set with a value 0-15). Setting one of these registers to a different value will change the colour of every multicolour pixel pair of that type on the screen.

Because bit 3 of each colour RAM location is used as the switch between colour modes, only colours 0-7 are available for type D pixel pairs.

Exercise

After you have RUN the above program, directly enter the following commands

```
POKE 53282,0
POKE 53283,7
```

These commands respectively set background colour register #1 to black and background colour register #2 to yellow. On my TV, this gives readable multicolour characters. Experiment with the colour values to find a good combination for your equipment.

Let's look at the standard "A" character as it appears in multicolour. The pattern on the left is the actual bit pattern while the pattern on the right has been converted into types of multicolour bit pairs as described in the table above.

Figure 3-5

0	0	0	0	1	1	0	0	0	0	A	A	B	B	C	C	A	A
0	0	1	1	1	1	0	0	0	0	A	A	D	D	D	D	A	A
0	1	1	0	0	1	1	0	0	0	B	B	C	C	B	B	C	C
0	1	1	1	1	1	1	0	0	0	B	B	D	D	D	D	C	C
0	1	1	0	0	1	1	0	0	0	B	B	C	C	B	B	C	C
0	1	1	0	0	1	1	0	0	0	B	B	C	C	B	B	C	C
0	1	1	0	0	1	1	0	0	0	B	B	C	C	B	B	C	C
0	0	0	0	0	0	0	0	0	0	A	A	A	A	A	A	A	A

Take the left-hand pattern and convert it into multicolour bit types and check your answer with that in the right-hand pattern.

Exercise

Enable the multicolour character mode, PRINT an "A" character on the screen and, by direct POKES to the colour registers, progressively change the colours of each multicolour bit type. Compare the result with the above diagram.

Because of the problems with multicolour characters on dif-

ferent monitors, it is not useful to provide further demonstrations. However, if you have an application for multicolour characters you should work through the following exercises. (The Commodore Character Editor supplied on the companion disk for this book has been modified to generate multicolour characters.)

Exercises

1. Develop three or four multicolour characters for different letters of the alphabet and use them to decide on the best colour combinations for your TV or monitor.

2. Once usable colours have been found, develop a full set of the 26 alphabet characters so that you may use these in your programs. Save them to tape or disk as discussed with standard characters.

3. One of the most common uses for multicolour characters is in the creation of images larger than the size of an individual character. In a similar manner to exercise 3 for standard mode characters, draw a multicolour image on a 16 x 16 grid, divide it into quarters and create the four multicolour characters required. Display the completed image moving about the screen.

4. Define a set of multicolour alphabet characters which may be "hidden" on the screen of a certain colour while standard mode characters are still displayed. This can be done by creating the multicolour characters using only one of the bit pair combinations and setting the associated colour register to the same colour value as the screen (this will not affect the standard mode). Write a simple game program to utilize this effect; for example, a quiz game where the player must guess words. Another idea is to use sprites, and check for sprite-background collisions with the "invisible" characters.



High Resolution Graphics

When using characters or character graphics from the keyboard, the screen resolution is limited to 40 columns by 25 rows (except for bar charts as we explained in Chapter 2). If you wish to use greater screen resolution for games, plotting graphs, or scientific applications (such as displaying spectral information), the C64 has the capability of drawing good high resolution graphics using its BIT-MAPPED MODE or pixel addressing mode (called BMM by Commodore).

Many other microcomputers have only a high resolution mode and do not have either the C64's graphics character set nor its programmable characters. Ever since the microcomputer made its first public appearance, there has been much debate about which graphics method was best: a set of special graphics characters on the keyboard like the PET, or the Apple's bit-mapped high resolution type. The C64 now has the best of both worlds and a lot more, since sprites can be used concurrently with high resolution screen graphics.

The problem on the C64 (there always has to be one!) is that programming bit-mapped graphics in BASIC without special commands such as DRAW LINE, PLOT POINT (SET), and Colour and FILL BLOCK is extremely time-consuming and very inefficient. This is really the area where small machine code routines are vital if you wish to do more than simply play. There are a number of commercially available programs and cartridges which "add on" some of these extra commands to the C64's BASIC, and they are very useful. Unfortunately, the value of these additions suffers from the problem that your programs may not be transportable to other machines which do not have this same "add on" facility.

Later in this chapter, a machine code routine to perform some plotting routines is given. This can be readily transported between C64s. Hopefully, the next version of the C64 which Commodore produces may have these extra commands built in.

How does high resolution bit-mapped graphics work?

In high resolution mode, each screen dot (pixel) may be selectively turned on or off, or, more correctly now that we use colours, each dot may be set to background (screen) or foreground (character) colour.

Since the screen consists of a character matrix of 40 X 25 with each character being 8 pixels square, if we use bit-mapping or pixel addressing this gives a matrix of 320 horizontally by 200 vertically on the standard screen.

In the C64, high resolution bit-mapped graphics are achieved in a manner similar to that used for user defined characters. You will remember from Chapter 3 that with the programmable characters we set aside a separate area of RAM for our new character set. This could use up to 2048 bytes to define the entire character set of 256 characters. With high resolution bit-mapped graphics each pixel dot on the screen corresponds to one bit in memory. Since there are now 320 X 200 bits to keep track of, we need to reserve 64000 bits or 8192 bytes of RAM memory to store the screen patterns.

To complete the parallel with programmable characters, the bit-mapped screen is essentially constructed of 1000 consecutive characters which can be changed dynamically (during the program operation), creating the new characters which will light whichever pixels we desire for the dot, line, or graph on the screen.

As with characters, the C64 has two available modes of operation.

1. Standard Bit-Mapped Mode (BMM) divides the screen into a grid of 320 by 200 points with the penalty that you may only have two colours within each character space (8 x 8 bit area), one for the screen and one for the dots.

2. Multicolour Bit-Mapped Mode, like the other multicolour modes for characters and sprites, has half the horizontal resolu-

tion of the standard mode to allow the use of four colours for each screen dot.

This gives a grid of 160 by 200 points with one screen colour and three possible dot colours available in each 8 X 8 bit square.

Both modes require 8192 (8K) bytes to store bit-mapped screen and this has to be put somewhere. Remember from Chapter 3 that the Video Interface Chip can only access 16K of RAM at any given time and that ALL the information needed for the video display (screen RAM, sprites,

and character patterns) must be stored in this 16K area. Also, there are four possible 16K areas or BANKS which can be selected. For the moment let's not worry about the BANK selection and leave the BANK set at the default area (BANK 0) pointing to the RAM at 0-16383. To use 8K of RAM for the screen bit-map, obviously we can only use the RAM from 8192-16384, since our program and the C64 will use the bottom half.

Normal characters cannot be displayed on the screen in bit-mapped mode without special programming which is beyond the range of this book.

Bit-Mapped RAM

The location of the bit-mapped RAM is set in the same location as for the character base in the VIC II's memory control register at location 53272. This also controls the screen RAM location and must be set with caution.



ONLY COMMODORE AMIGA MAKES ALL THIS POSSIBLE.

When you first see a Commodore Amiga you'll be amazed at how much it can do. After you've seen its capabilities you won't be surprised that over a million Commodore Amigas have been sold worldwide.

That's because Commodore Amiga is the world's most advanced home and small business computer. It is also the leader in specialised applications such as Desktop Publishing, video graphic design and music.

It talks, animates, educates. Whether you're nine or ninety, student or teacher, Commodore Amiga has the software to aid learning. As well as these applications, it offers a wealth of enter-

tainment with the latest hi-tech video games.

The potential of the Commodore Amiga doesn't stop there. Commodore Amiga has thousands of software packages available as well as a huge range of supporting magazines.

The Commodore Amiga 500 and 2000 make so much possible you're limited only by your imagination.

For further information and your nearest Commodore dealer phone (008) 023 233.


Commodore

JSA COM 0406

THE POWER BREAKS THROUGH...



AMIGA ACTION REPLAY

THE WORLD'S MOST POWERFUL FREEZER-UTILITY CARTRIDGE

☐ **AMIGA ACTION REPLAY SIMPLY PLUGS INTO THE EXPANSION PORT OF YOUR AMIGA 500 AND GIVES YOU THE POWER TO FREEZE MOST ANY PROGRAM, THEN YOU CAN:-**

☐ **SAVE THE ENTIRE PROGRAM IN MEMORY TO DISK**
Special compacting techniques enable up to 3 programs to fit on one disk. Unique FDOS power means that the programs reload at up to 4 TIMES FASTER than AmigaDOS - even independently of the cartridge.

☐ **UNIQUE INFINITE LIFE TRAINER MODE**

Allows you to generate more and even infinite lives, fuel, ammo etc. Perfect as a trainer mode to get you past that "impossible" level. Very easy to use.

☐ **SPRITE EDITOR**

The full sprite editor allows you to view/modify the whole sprite set including any "attached" sprites.

☐ **VIRUS DETECTION**

Comprehensive virus detection and removal features to protect your software investment. Works with all presently known viruses

☐ **SAVE PICTURES AND MUSIC TO DISK**

Pictures and sound samples can be saved to disk. Files are IFF format suitable for use with all the major graphic and music packages.

☐ **SLOW MOTION MODE**

Now you can slow down the action to your own pace. Easily adjustable from full speed to 20% speed. Ideal to help you through the tricky parts.

☐ **RESTART THE PROGRAM**

Simply press a key and the program will continue where you left off.

☐ **FULL STATUS REPORTING**

At the press of a key now you can view the machine status, including Fast Ram, Chip Ram, Ramdisk, Drive status etc.

PLUS THE MOST POWERFUL MACHINE CODE FREEZER/MONITOR

MORE FEATURES THAN YOU COULD EVER NEED. HERE ARE JUST SOME:

● Full M68000 Assembler/Disassembler ● Full screen editor ● Load/Save block ● Write string to Memory ● Jump to specific address ● Show Ram as text ● Show Frozen picture ● Play resident sample ● Show and edit all CPU registers and flags ● Calculator ● Help command ● Full search feature ● Unique Custom Chip Editor allows you to see and modify all chip registers - even write only registers ● Notepad ● Disk handling - show actual track ● Disk Sync pattern etc. ● Dynamic breakpoint handling ● Show memory as HEX, ASCII, Assembler, Decimal Copper Assemble/Disassemble.

REMEMBER AT ALL TIMES YOU ARE INTERROGATING THE PROGRAM IN ITS "FROZEN" STATE WITH ALL MEMORY AND REGISTERS INTACT - INVALUABLE FOR THE DE-BUGGER OR JUST THE INQUISITIVE!

Hardware Peripheral Distributors, 5-7 Railway Terrace, Dry Creek, SA 5094
PO Box 121 Dry Creek, SA 5094. Phone (08) 349 8486. Fax (08) 349 4667.

DEALER ENQUIRIES
WELCOME

ANNOUNCING

AUSTRALIA'S LARGEST PUBLIC DOMAIN COLLECTION FOR THE AMIGA OVER 1200 DISKS COMPRISING

Fred Fish to 370, Amigan, Amicus, T Bag, & 17 Bit Software

All disks \$5 each (allow \$2 p & p per order)

Send \$6 for full catalogue

We also wish to start an all Australian P D collection to consist of mainly utilities and games. Please send for details on submitting your work for inclusion. Let your work be seen.

We can also supply most items of hardware for the Amiga at very competitive prices.

SEND NOW TO:

ALLEN COMPUTER SUPPLIES

432 DORSET ROAD, CROYDON VIC 3136

TEL 03 725 3379 FAX 03 723 1780

By referring to the table in the Chapter 3 (or in Appendix 1), it can be seen that to set the start or base location of the bit-map or character set to 8192, the pointer should be set by:

POKE 53272,(PEEK(53272) AND 240) OR CB

where CB = 8

which normally means you can use

POKE 53272,16+CB ! DON'T DO IT YET !

(Reset to normal with POKE 53272,20.)

Important note: This pointer actually sets the "offset", in 1K increments, from the starting location of a particular 16K block of the computer's memory as determined by the BANK setting. Even though you can set this pointer to any value between 0 and 14 in steps of 2, in reality with high resolution graphics, the C64 will default all settings to either 0 or 8. Numbers above 8 would not leave enough RAM for the 8K bit-map, and with any number less than 8, the start of the bit-map defaults to 0, and in BANK 0 this is fatal. Writing to the bit-map will overwrite the main operating system variables, causing the computer to crash. In BANK 0, you must only use CB=8.

Bit-Mapped Operation

To change the C64 from normal character display to bit-mapped mode, bit

5 of location 53265 in the VIC II is set to 1

POKE 53265,PEEK(53265) OR 32

For most normal uses this can be done with

POKE 53265, 59

The C64 is reset to character display mode by

POKE 53265,PEEK(53265) AND 223

or

POKE 53265,27

In the normal character mode, a PEEK(53265) alternates between the values 27 and 155. This is caused by the VIC II changing the value of bit 7 (which equals 128) when it scans the video screen.

Exercise

Clear the screen.

Type on the top line

POKE 53265,59 and press RETURN

The screen apparently turns to a series of meaningless multicolour dots! But wait, what are all the alphabet characters doing there? What has happened is that you have enabled the bit-mapped mode.

Consequently, the C64 is displaying patterns generated by all the bits in the 8K block of RAM from 0-8192 because the character pointer is still set to 4 (defaulting to 0), putting the bit RAM in the bottom of the BANK. The bottom half of screen represents the top half of the bit-map, RAM locations 4096-8192, and contains the ROM "images" of both the character sets. The top half of screen comes from RAM at 0-4095 and is composed of the operating system variables, the "old" screen RAM and the program.

Take a close look at the top of the screen. Do you see various bits changing? You are actually "seeing" the C64's operating system at work!

If you type a number of characters, you will observe that only the background colour changes, not the actual patterns. We will see later why this is so. Clear the screen with the [CLR] key. What happens?

Once you understand more about the operation of the C64, this apparently meaningless display will become more interesting.

Press RUN/STOP and RESTORE to return the computer to normal operation and we will continue.

4.2 Standard Bit-Mapped Mode

This mode is perhaps the least useful of the two since it allows only two colours, but it does give the best resolution and is also somewhat easier to program.

Colours

First, let's look at how the colours of the pixels are selected. Since there are only two colours available in each character space of 8 X 8 bits, if a bit is set to 1 the corresponding dot (pixel) will be ON and displayed in the foreground or character colour, and if set to 0, the dot will be OFF, displayed in background or screen colour. Since these bits which create the pattern are stored in the bit-map RAM, the area of RAM which was previously used to store the screen is not doing anything so it can be used to store the colour information. This explains what happened in the exercise above where characters were typed on the "screen" in the bit-map mode; the different values of the characters set different background colours.

Actually, the name "screen RAM" is now a misnomer since the pattern which appears on the video screen in bit-mapped mode is generated from the bit-map. However, we will continue to use the term to avoid confusion.

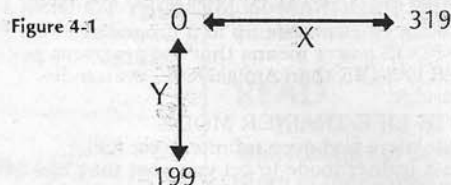
It works like this. The left-hand four bits (bits 7-4) in each byte of screen RAM hold the foreground colour while the right-hand four bits (bits 3-0) hold the background colour. It is possible to set each character area of 8 x 8 bits

to a different colour, but in practice the background is generally set to one colour and the dots to another.

Ok, that's the easy part. Now let's tackle the more difficult part of drawing lines in our bit-map!

Constructing the Bit-Map

The bit-map consists of 1000 programmed characters, each of which we know are stored in RAM as eight consecutive bytes. This has to be related to an X and Y coordinate to map the screen as



The conversion between the bit X and Y coordinate and its byte location is an involved process. Simply use the formulae if you are not interested in how it works.

Each of the 25 lines which make up screen image is composed of 40\ characters and since each character is stored as eight consecutive bytes, the first eight bytes are as follows:

Character 0 Line 0

Byte Number X,Y coordinates

0 0,0 - 0,7

1 1,0 - 1,7

2 2,0 - 2,7

3 3,0 - 3,7

...

...

7 7,0 - 7,7

and the next eight bytes are the next character to the right on the top line

Character 1 Line 0

Byte Number X,Y coordinates

8 0,8 - 0,15

9 1,8 - 1,15

10 2,8 - 2,15

11 3,8 - 3,15

...

...

15 7,8 - 7,15

and so on until character 39 on line 0

Character 39 Line 0

Byte Number X,Y coordinates

312 0,312 - 0,319

313 1,312 - 1,319

314 2,312 - 2,319

315 3,312 - 3,319

...

...

319 7,312 - 7,319

This process continues for the next 24 lines until we have mapped all the 1000 characters and 8192 bytes. To calculate the location of any bit from the X and Y coordinates use the following formulae:

Let the start of the bit-map = BASE (say 8192) then

ROW = INT(Y/8)

LINE = Y AND 7 (equivalent to Y - INT(Y/8)*8)

CHARACTER = INT(X/8)

Because bits are numbered as 76543210, the actual bit we are defining with the X and Y coordinates is found by

BIT = 7 - (X AND 7)

The byte location is then

BYTE = BASE + ROW*320 + LINE + CHARACTER*8

Once the byte is found the desired bit is turned ON, set to 1, by

POKE BYTE, PEEK(BYTE) OR 2^BIT

or turned OFF, set to a 0, by

POKE BYTE, PEEK(BYTE) AND (255-2^BIT)

The Australian COMMODORE and AMIGA REVIEW

CLASSIFIED ADS

Please place the following classified ad in the next issue!
(Please print)

☐

FOR SALE

☐

WANTED TO BUY

☐

OTHER _____

(Include hardware, contact number etc).

RATES: \$8.00 for 15 words & 50c for each extra word.

Find enclosed a **CHEQUE**

or

Please debit my **BANKCARD:**

The number is: _____

The expiry date is: _____ of 19____

Signature: _____

Our Fax number is: (02) 398 5322

Our phone number is (02) 398 5111

Deadline: 12th of the month prior to issue.
(that means 12th of Sep. for Oct. issue)

☆ Subscribe ☆

The Australian COMMODORE and AMIGA REVIEW

*Make sure of getting
your copy
Subscribe now!*

Please enrol me for issues
subscription to The Australian
Commodore and Amiga Review,
commencing with the
issue.

I enclose a cheque/money order
for \$

Please charge my Bankcard

Bankcardnumber:.....

Expirydate:.....

Name:.....

Address:.....

.....Postcode:.....

Please tick applicable

First Subscription ☐

Renewal ☐

**TO: The Australian
Commodore
and Amiga Review
21 Darley Road,
Randwick NSW 2031
(02) 398 5111**

Rates within Australia:

6 issues \$19.00 (inc postage)

12 issues \$36.00 (inc postage)

Minimum OS postage \$35.00 AUS
(Air Mail) more for some countries

If you don't want to cut this out
photocopy it or just send a letter.

Sydney 879 7455 ☎ National 008 252 879

Huge Public Domain Library

Software you can afford - from as low as \$6 a disk full! Just phone to place your order.

Choose from any of our hundreds of public domain disks or ask about our large range of commercial products. Public Domain disks dispatched next day. We fully support all products we sell.

AmigaDOS Utilities

Everything you need to keep your disk collection in order. Includes DiskSalv, DiskX, Disk Utilities Five, Boot Intro Maker, FileInfo, DiskX and NewZAP3.18 Track and Sector Editors and PopInfo.

\$8.95

Super Workbench 1MB Version

Powerful calculator, Window Iconification, Custom Workbench Menu's, PopInfo, Background Textures, SID - Better than Diskmaster only cheaper!, and ARP1.3 installed and ready to boot! (512K Version Available)

\$8.95

☛ Anti-Virus PAK

Don't get caught. Insure against infection with our special boot-block program which not only eradicates virus infections but prevents future invasion.

\$14.95

Text

Editors/Wordprocessing
All the best text editors including TextEd-2.1, Qed, HEd, Med, Az, Word Count, Xspell and AmigaSpell. Full documentation on disk.

\$8.95

ARP 1.3

For a faster CLI and speedier more powerful commands as well as more space on your Workbench use this disk to install ARP 1.3 on your boot disk.

\$8.95

Communications Disk

Just getting into telecomputing? This is the disk you need to get started. Includes JR-Comm, a powerful terminal program, plus a host of compaction programs for decompacting BBS downloads and packing your own files for storage or modem transfer.

\$8.95

Luxo Teenager - 1MB

A fabulous ray-traced animation of two lampshades - father and son!

\$6

RGB Hazzards

An educational presentation created with the Director with a brilliant humorous twist. A must for every collection. Guaranteed to entertain.

\$6

Ace Animations 20

Includes three Sculpt-4D animations - Bottlehead, Walking-Note and Walkersnap.

\$6

Ace Animations 17

Two ray traced animations - CARcircle and Clerplane show off more Sculpt 4D power along with two stills by the same program.

\$6

Ace Animations 16

Often spoken of as one of the best ever, the amazing Clerk-Kent character is at it again on this disk.

\$5

Ace Animations 14

A frame-grabbed black and white hi-res animation of a knight coming out of a book. Impressive action - with digitised sound.

\$5

Other Titles Available

Newtek Demo Reels II and III - \$8.95
Walker Demo I and II (2MB) - \$8.95
Walker Demo I (1MB) - \$5
Artscape Demo Disk Two Disk Set - \$8.95
Badge Three Disk Demo Set - \$11

Plus many others...
**FISH CATALOGUE
ON DISK
AVAILABLE.. \$5
(up to 380)**

Amiga Commercial Software

Many Other Titles Available - Call and we will track it down for you.

* September NEW PRODUCTS and SPECIALS *

Vidi Frame Grabber

Grab black and white images in real time or digitise still colour images.

\$319

Videoscape 2.0

Includes NEW Pro-Motion for smooth camera and object path design.

Also psuedo-raytrace mode!

\$229

Excellence V2.0

Now more powerful than ever. Spell/Thes and Grammar.

**INCLUDES
FREE Memorex
80 DISK BOX.**

\$299

Amiga 500 512K RAM Expansion

Unique external On/Off switch and clock/calander.

\$169

Prime Artifax

1st Floor, Unit 12, 33-36 College St
Gladesville, 2111

POST TO:

P.O Box 288, Gladesville, 2111

Name _____

Address _____

Post Code _____

VISA ☐ M/Card ☐ B/Card ☐ Cheque ☐ Money Order ☐

Number Valid--/--

Products _____

Phil Campbell's Entertainment

All the latest news and views from the world of entertainment.

Commodore Baby expected soon

Rumours are flying thick and fast about the new Commodore "Baby", an integrated Amiga 500 and CD player. When it arrives, the Baby will be the ultimate multi-media machine - fantastic games and Educational programs with live-action video backdrops and CD quality sound, reference works with colour illustrations and sound samples - the possibilities are endless. The baby will be styled like a standard "home stereo" component, and is designed to simply slot in to your existing home entertainment system. There's a remote controller that will let you access all functions - no more mouse and keyboard, though these will be available as options. By the way - it will even play your collection of existing Audio CDs.

Machines will be released to developers in the UK next month, and Commodore Australia are planning to release the machine here in the first half of 1991. We'll keep you posted.

Street Rod from ECP

Wanna drag? Now's your chance, with *Street Rod*. There are 25 Hot Rods to choose from and you can customise your car with a full blown construction kit before you hit the drag strip. Distributed by ECP, *Street Rod* retails for \$49.95.

Disney release quality software range

Questor have announced the release of twelve new titles from Walt Disney Software - Dick Tracy will be one of the first. But it's the Disney Educational range that's really raising some eyebrows. "The Mickey Mouse educational series is streets ahead of anything I've ever seen," says

Questor's Tim Allison. Here's an example. Mickey lies snoring in bed - press "S" - Mickey wakes up, yawns, walks to the bathroom and picks up some soap. A genuine Mickey Mouse voice says soap. There's a similar sequence for every letter of the alphabet, as well as a whole Disney-style world to explore - characters speak to each other, and even tell jokes. First releases are in IBM format, and come with a special SOUND SOURCE card allowing full digitised sound through the printer port. Amiga animation packages and other neat stuff are on the way too.

Web of Terror from Pactronics

They're waiting in the deepest reaches of space - huge space spiders. You are Rock Bimhead, and your ship is called to rescue a space cruiser trapped in a huge space spider web. There's only one problem. You're terrified of spiders! The aim of the game is simple - collect stranded survivors in your ship, then drop them off in safety - just like a space age version of *Choplifter*. Amiga only, out now.

Operation Stealth from Ozisoft

Set in the world of international espionage, *Operation Stealth* plunges you head-first into a James Bond style interactive adventure. You are John Glames, CIA undercover agent, survival expert, trained in the latest combat techniques. Your task is to track down a missing Stealth Fighter, that has somehow been stolen by international terrorists. To help you in your task you've got all the standard secret agent goodies - an acid squirting pen, safe decoder, a tape recorder built into your Ronson electric shaver. Sounds like good stuff, and it uses the Cinematique operating system first shown in *Future Wars*. Watch out for a full review soon.

Design your own missions in "Breach-2" RPG

Amiga fans will need 1 Meg of memory to play *BREACH-2*, an advanced Role Playing Combat game with 3-D maps and views, animated combat, multi level terrain and 10 opponents - you can even create your own characters, and design your own missions. This is a very deep game, with strategy and shoot-em-up elements as well. Watch out for a full review soon.

RORKE'S DRIFT

Join the fight against the Zulu armies in this fully animated war game - there are full 3-D maps and animated combat sequences as well as plenty of excitement in this historically accurate wargame from Pactronics. It's out now, and definitely worth a look if you're keen to try something a little different.

Wings arrives

The 1 Meg version of *Wings* has arrived - it should be in the shops by the time you read this. Don't miss it - it's the best game I've seen for a long time, with high speed vector graphics mixed with detailed bit-maps. Watch out for a full review next issue.

Atomix from Pactronics

Play your way through 30 levels of atomic excitement with this new "E-motion style" release from Pactronics. In the first level, for example, you have to push atoms around the screen to build up a water molecule. Study for your chemistry exams while you play! It should be in the shops by the time you read this, and I can assure you that it's dangerously addictive!

New releases from Ozisoft

Flight of the Intruder, a hot new Flight-Sim from Spectrum Holobyte, has just been released for the Amiga at \$69.95.

The Leisure Suit Larry Triple Pack priced at \$99.95 sounds expensive - but it features all three of the top selling Leisure Suit Larry games in one pack.

Hints & Tips

Send your hints to Phil Campbell, PO Box 23 Maclean NSW 2463. You can also fax your good advice on (066) 452 060.

AMIGA

Silkworm

Shalom Baker, of Selby, Vic, points out that when playing SILKWORM in cheat mode (see July issue), by pressing the "F" keys you can change the speed of play, and by pressing the number keys you can change to different levels - ie key 7 takes you to level 7.

Pro Tennis Tour

Pat Cash please note! Climbing the world tennis rankings is easier than you think. Juris Graney says all you have to do is play the first set; when the score screen appears, press the fire button, then ESC. The screen will then declare "Game, Set and Match" to your opponent. Even so, you'll find your

ranking has just dropped from 64 to around 54. Repeat the process until you find an opponent you can beat!

COMMODORE 64

Michael Fox of Airds NSW sent a stack of Pokes, as did somebody else whose name I've misplaced! Sorry about that. Here's a combination of some of the best - simply reset your computer with a reset button or cartridge, then type the POKE and SYS commands as shown below. Press return, and you should find you've got unlimited lives.

Action Biker POKE 2398,173: SYS 2128
Blasteroids POKE 1151,173: SYS 25856
Bombjack POKE 5112,0: SYS 3101RICK
Dangerous POKE 27931,173: SYS 2057

DRAGONS LAIR II - Part 2

Juris Graney is still escaping from Singe's Castle. Here's the second episode in his adventures.

The Lizard King.

If you are standing on the left side of the screen go right twice, if you are standing on the right side, go left twice. Then you will be running up a passage way. If the passage is tilted to the left go forward, and when the magnet carrying your sword goes left, you go left, if the room is tilted right go forward and when the magnet carrying the sword goes right you go right. The screen will change again.

Now this is the hard part. Push the fire button twice so you can get your sword. The screen will stop if you are standing on the left side go left, right, down and press the fire button. Dirk will kill the lizard and walk off.

The WalkWay.

When you are on the walkway the floor will start to crumble away. When this reaches your feet go forward and when you land go forward again. You will do this about three more times.

The Mudmen.

Dirk will start to walk towards some mudpits. When the first squirt of the mud goes up go back. The screen will change and four mudmen will be after you. There will be a wall of flames on your right or left of the screen. Go forward and then as soon as the flames stop go left or right depending on where the flames were. The screen will change again and all you need to do is go forward, then go left or right depending which way the bridge is facing, then pull down and as soon as the screen changes go left or right depending on where the door is.

The Skeleton.

If the skeleton's hand comes up from the right go left, up, right, left. Do the opposite to this if the hand comes up on the left.

The Crypt.

When confronted by the Evil Shapeshifter go left if the sickle blade is on your right. Then go right in the same frame. Next frame go right and up in quick succession. Then go left and up. Then go back, forward and then go aaugh.

Sorry folks, that's as far as we can take you. If you can get any further, let us know!

Space Harrier POKE 6010,173: SYS 2128
Operation Wolf POKE 33351,165: SYS 16963
Robocop POKE 44416,0: SYS 32768
China Miner POKE 32776,0: SYS 33127

THE SENTINEL

This must be everybody's favourite game! Stuart Elflett sent the following:

Level 0010 - Code 67510065
Level 0043 - Code 46358774
Level 0085 - Code 74477986

There are more, but typing all those numbers makes me go funny in the head! Stuart also sent these Pokes, which he says should be entered on separate lines:

POKE 6679, 173 <RETURN>
POKE 8512, 10 <RETURN>
SYS 16128 <RETURN>

MINDSCAPE "DAYS OF THUNDER" COMPETITION

Mindscape have three copies of this new movie adaptation to give away, and as everyone seems so keen on word puzzles, try this. Write down all the words of four letters or more you can make from the letters in the title *Days of Thunder* - each letter can be used only once (except for D, which occurs twice!) Naturally, the original words don't count. One prize will go to the entry with the biggest single word, two other prizes to the entries with the most words. Please count your words and note the number clearly at the bottom of the page. Send them to Phil Campbell, PO BOX 23 Maclean NSW 2463, or fax them on (066) 452 060 - "competition".

MINDSCAPE GREMLIN COMPETITION WINNERS

The Mindscape "Draw a Gremlin" competition was obviously much too hard for most readers! After a phenomenal response to the 3-D Tennis competition, we were surprised to see that this one got you well and truly stumped! The winning entries, however, were of a very high standard.

Congratulations to first prize winner Mandy Bailey of Mandurah WA for her excellent pencil sketch of three cuddly gremlins. Second prize goes to David Thompson of Merewether NSW, and third prize to 12 year old Garreth Ludke of North Rockhampton. Prize winners will all receive a Gremlin Pack containing *Super Cars*, *Greg Norman Golf* and *Skidz!*

MEMORY CHIPS FOR AMIGA USERS

Prices as at 1st August

DIP/ZIP	SPEED	100ns	80ns	70ns
414256		9.40	9.85	10.60
41256		2.65	2.80	3.20
41464		2.75	2.90	
4164		2.50		

SIMMS FOR GVP 94.00

HARD DISK (1MB)

Sales Tax 20%

Overnight delivery, credit cards welcome.

Phone for pricing PS2, Compaq, Toshiba

pelham PTY LTD

Tel: (02) 427 0011 Fax: (02) 428 5460

MELTON MANUFACTURING

Freeze Machine's

Limited quantity

New low price

\$59.95

Available from:

Melton Manufacturing

Phone: 088 252 643

or send cheque/money order

to : P.O.Box 209

Moonta S.A. 5558

include's post & packing.

**NOW available at leading
Computer Outlets**

COCKROACH SOFTWARE

TURBO ROM

CARTRIDGE ... \$39.95 R.Retail

GRAPHICS

UTILITY ... \$59.95 R.Retail

Dealer Enquiries to:

MULTICOIN AMUSEMENTS PTY LTD

ph: 075 37 5711 Fax: 075 37 3743

Hall OF FAME

FREE SOFTWARE

The best of every imaginable type of public domain and shareware programs from GAMES to ASTRONOMICAL packed on each and every disk for the C64/128 and AMIGA users at just \$5 per disk selection!

Your \$50 membership fee gets you all this!

● **10 FREE disk selections** of your choice!

● **FREE access** to the Island Bulletin Board System on (03) 742 39931 (visitors welcome)

● **DISCOUNTS** on an extensive range of Commercial Software & Hardware for your Commodore!

● **FREE postage and MORE!**

Full money back guarantee if not satisfied, 100s of more than happy members can't be wrong!

[] **Please rush me my membership to ISLAND SOFTWARE CLUB.**

[] **Rush me my FREE information kit on ISLAND S'WARE CLUB**

Computer type: _____

Payment [] Chq./M.O. [] Credit card

Card type: _____

Card Number: _____

Expiry Date: ____/____/____

Name: _____

Address: _____

P/code _____

Post to: FREEPOST 49 (use no stamp)

ISLAND SOFTWARE CLUB

P.O. BOX 381, WERRIBEE VIC 3030

Or call: (03) 741 9981

AMIGA

AMIGA ARKANOID - 976,548 Kamikaze Andy
BATTLE SQUADRON - 99,999,999 A. Burbidge
BLOCKOUT - 36,455 David Marsh
BOMB JACK - 200,680 David Thompson
BUBBLE BOBBLE - 1,200,460 V. van der Heyden
BUGGY BOY - 103,350 David Thompson
CHASE HQ - 4,285,000 Mathew Mantle
CONTINENTAL CIRCUS - 4,529,690 A. Burbidge
CRAZY CARS - 84,006,720 Bill Horsley
CRYSTAL HAMMER - 43,847 David Thompson
DENARIS - 53,900 Peter Evans
DRAGON NINJA - 204,880 Mathew Mantle
DOUBLE DRAGON - 124,630 James Knight
ELIMINATOR - 48,665 Greg Munro
GEE BEE AIR RALLY - 307,466 Kamikaze Andy
HYBRIS - 1,618,452 Mathew Mantle
IMPOSSIBLE MISSION - 66,380 Diane Unwin
INDIANA JONES L.C. - completed Phillip Nicoll
SS - 1,420,450 A G Smyth
KARATE KID II - 52,000 Robert Dunn
LEATHERNECK - 83,300 Owen Webster
MAJOR MOTION - 50,658 Owen Webster
MENACE - 996,481 Kamikaze Andy
MINDWALKER - 306,214 P Schumacher
MOUSETRAP - 64,817 Mathew Mantle
OPERATION WOLF - 344,800 John Boyle
OUTRUN - 11,102,200 Brad Stewart
OFFSHORE WARRIOR - 626,345 Jacob Booth
PACMANIA - 3,250,140(c) Amos Burbidge
PINBALL MAGIC - 332,390 Tracey Chilcott
PIONEER PLAGUE - 35,412 Keir Sooby
POPULOUS - 201,600 Nathan Allen
POW - 612,865 David Thompson
RAMPAGE - 111,600 Kamikaze Andy
SIDEWINDER - 811,250(c) Amos Burbidge
SILKWORM (Heli) - 913,700 A J Dunstall
SILKWORM (Jeep) - 515,100 Andrew Barker
SKWEEK - 715,940 Stephen Lander Level 55
SPEEDBALL - 17,650 Amos Burbidge
STARWARS - 5,722,822 C. Mingos wave 33
STRIDER - 113,950 Kamikaze Andy
SUPER HANG-ON - 13,857,903 Brad Stewart
SWORD OF SODAN - 364,750 Kamikaze Andy

TEEN.MT.NIN.TURTLES - 140,900 David McLeish
TEST DRIVE - 112,915 Wayne Haesler (sorry!)
TEST DRIVE 2 - 307,910 Amos Burbidge
TETRIX - Level 103 Sally Pollock
TURBO OUTRUN - 100,260,819 Mathew Mantle
TV-SPORTS FOOTBALL - 189-0 David McKinney
TYPHOON - 54,255 Owen Webster
VIRUS - 7,131 Amos Burbidge
WHIRLIGIG - 28,210 Nathan Allen
XENON II - 1,007,830 Kamikaze Andy
ZOOM - 58,903 Sally Pollock

COMMODORE 64

BATMAN THE MOVIE - 330,920 Simon Watford
BANGKOK KNIGHTS - 36,800 N. Van Heeswyk
BOMB JACK - 344,560 J Jacobs
BUBBLE BOBBLE - 1,009,857 Kishore Ludbey
BUGGY BOY - 118,750 Paul Millward
CHASE HQ - 9,220,121(c) ICEMAN
DOUBLE DRAGON - 17,340 Paul Millward
DOUBLE DRAGON II - 255,190 N. van Heeswyk
FAST BREAK - 136 to 9 Chris Byrne
GIANA SISTERS - 81,981 Russell O'Neill
GRYZOR - 203,900 Paul Millward
HANDBALL MARADONA - N Van Heeswyk
HAWKEYE - 59,000 Nick van Heeswyk
IKARI WARRIORS - 267,800(c) Iceman
INT. KARATE - 139,300 Paul Millward
LAST NINJA II - c34.2 sec N Van Heeswyk
OPERATION WOLF - 168,789 Kishore Ludbey
OUTRUN - 6,438,787 Kishore Ludbey
PAPERBOY - 19,750 Royston Diaz
QUE-DEX - 639 Chris Byrne
R-TYPE - 684,200 Nick van Heeswyk
ROBOCOP - 82,250 Tim Lockwood
ROLLING THUNDER - 222,740 Iceman
SALAMANDER - 235,300 Paul Millward
STREET FIGHTER - 127,050 Chris Byrne (clocked)
SUPER CYCLE - 212,210 Iceman
TEST DRIVE - 24,790 Jason Denham
THUNDERBLADE - 1,734,040 Troy Morrison
THUNDERCATS - 57,500 Chris Byrne
TARGET RENEGADE - 330,450 Chris Byrne
THE UNTOUCHABLES - 70,230 Simon Watford
WONDER BOY - 237,650 Kishore Ludbey
Scores followed by (c) indicate that the game has been completed.

Read on, as ANDREW PHANG takes you on a guided tour of

IMPERIUM

In this new release from Electronic Arts you become the Emperor of the Solar System. You wield total control over every aspect of society, from military forces to the galactic economy. Evaluate your strategy in dealing with the other empires that make up the universe. The fate of your people, indeed the fate of the entire Solar System rests in your hands. Ah, the power of being Emperor!

Imperium is a mixture of strategy and simulation. Every move you make will have consequences elsewhere. If you decide to build up your starfleet of battleships, other empires (and there are quite a few) might view this as a threat to their existence. However, if you decide to solely concentrate on developing your economic wealth, your Empire will be defenceless against attacks by marauding invaders. The wise Emperor must balance military strength with economic growth, and this is no easy task (ask Hawkie!).

Your ultimate goal is to expand your Empire to the furthest reaches of outer space, and there are two clear ways of doing this. The first (and easiest) is to simply conquer the other existing empires. Maintain a steady economy, and your wealth will allow the Empire to increase its armed forces. Starfleets of Battle Cruisers, Destroyers, Frigates, and Dreadnoughts

must be built, which costs time and money. Then you'll need money to recruit and train different levels of troops. Furthermore, you need money to build Ark Ships and fill them with colonists, to populate your conquered worlds. Finally, you may need to make alliances with other empires (before invading them), and alliance treaties often mean economic treaties. Hence the need for a successful strategy in controlling the trade and economy of your Empire.

The second way to win is to live for a thousand years. Yes, a THOUSAND years! Imagine what your breath will be like! How can any mere mortal, though Emperor he may be, survive for such a long time? Simple. Steroids. Really! In this case, Nostrum, a life preserving drug that can halt the aging process. As you can imagine, Nostrum is a much sought after substance. Empires will go to war over it, and so will you. It's vital to find adequate amounts of Nostrum, because without it you won't live long enough to win.

Graphics are nothing to shout about, though they are crisply presented in black and white - but why didn't they use more colour? The game screen consists mainly of a series of icons, representing your options (build spaceships, build spy antennas, obtain the latest news reports, and so on). There's a map icon which switches the

game into a "revolving map" mode. Here you are able to collate all the information you have on various empires and planets, as well as viewing a graphical representation of the galaxy (click another icon to "revolve" the map). The emphasis in *Imperium* is not on flashy graphics, but strategy and gameplay, of which there are heaps. Fair enough.

Imperium is another solid strategy game from Electronic Arts. The number of options available are too numerous to count, and the nature of the game will ensure many, many hours of gameplay. Thank goodness for the Save game option! Included with the game package is a very detailed manual, and an Amiga reference card. Strategy buffs, make a beeline for this one!

Distributed by:

ECP (075) 963 488

RRP: Amiga \$49.95

Ratings:

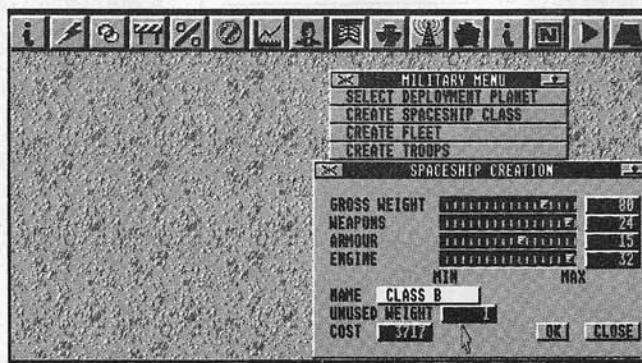
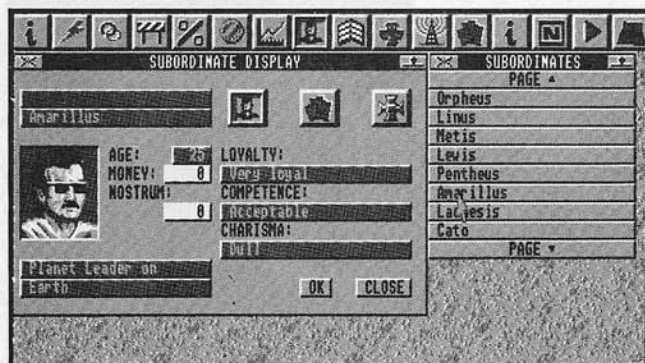
Graphics: 75%

Sound/Music: 88%

Gameplay: 89%

Value: 85%

Overall: 87%



GREG MUNRO likes a game he can get his teeth into. And here's one that's right up his alley. Fast, furious action all the way with

ELIMINATOR

Yes, it's yet another shoot'em-up from Hewson, and it's predictably fast, difficult, addictive and non-cerebral. Just the thing for getting your mind out of thinking mode after a hard day at the office (or school). It's simple, straightforward, fast and furious arcade action you can just load and play. And it's a great game!

You can read and comprehend the instructions in less than sixty seconds - which is longer than my first game lasted! Under "Scenario" comes the usual garbage: "From underground there came a machine encircled by death, that kills but cannot be killed...The Eliminator. A war machine whose solitary quest is to eradicate all forms of life - travelling from planet to planet obliterating all in its path." (Not very environmentally friendly, is it?!) Did you pick the blatant lie? Yep, it's definitely not true that your "machine encircled by death" can't be killed! On the contrary, there are lots of real easy ways to destroy your Eliminator vehicle!

Eliminator is set on a long winding track. The objective is to pilot your vehicle through each stage, shooting everything in sight and avoiding or destroying obstacles. Three powerful jets propel Eliminator along just above the surface at breakneck speed. You need lightning reflexes - there are no brakes! However, if your shattered nerves need to recover, there is a pause function. The track has a chequered pattern to provide perspective. It winds from side to side as well as up and down hills and through tunnels. Assorted aliens attack in waves. Some are just spherical green things, others look like 3D Space Invaders. Some are big bloodshot eyeballs.

As well as aliens you'll encounter walls, targets, ramps, and bonus icons. Walls are indestructible stationary objects. Some look like bits from the movie "Alien", some are electrical discharges between two poles, others look like a wall of fire, and some are



evil looking black things with flashing lights. They all have the same result - instant destruction! Some sections require very precise zigging and zagging to avoid these annoying objects, especially when walls are combined with targets.

Targets are flashing objects which cover an Eliminator sized gap. To proceed through without becoming a fireball, the target must first be destroyed.

Ramps are harmless ... sometimes. They flip you into the air so you can jump walls which cover the whole track. In stages 2, 4 and 6 there are also ramps which flip you upside down onto the ceiling. Hint: avoid the first ramp in level 4 - it leads straight into a wall of fire on the roof! In Stage 5 the whole central strip is a quagmire of blue liquid which can only be crossed via ramps. If you touch it, you sink bubbly into oblivion.

Bonus icons are spinning pyramids and cubes. Pyramids for extra weapons, and cubes for ammunition. There are five weapon types on top of the single-fire cannon you start with. These are shown to the left of the screen and may be toggled through by moving the joystick up and down. On the right of the screen is ammo, shields and lives. Extra lives are awarded every 10,000 points.

Control is entirely by joystick, except for key commands to pause; abort; and toggle Music and SFX on and off. High scores are written to disk, which is nice - there's nothing more useless than high score

tables that don't store your victories for posterity! My high score is 48,665. So far I've reached Stage 7, which is easier than the near impossible Stage 6, and the incredibly difficult Stage 5, but by that time I only had one Eliminator left.

Every few levels you obtain a password enabling you to skip earlier stages, which makes it easier to get further, but harder to get a high score. But don't blink or you'll miss it, because like everything else in *Eliminator*, it doesn't hang round long!

Graphics, SFX, and music are good. Not brilliant, but what can you expect from an Atari ST conversion? The game itself though is dynamite! I recommend it almost without reservation. Shoot'em-ups are not my favourite type of game, so they've gotta be good to impress me, and this is a very good game. *Eliminator* is instantly addictive, challenging, good value entertainment. Unlike many games I review, I'll probably still be loading it six months from now. □

Distributed by:

Pactronics (02) 748 4700

RRP: C64 disk: \$39.95

Ratings:

Graphics:	69
SFX, Music:	70
Playability:	97
Addictiveness:	97
Overall:	89

QUICKSHOTS

A quick look at what's new in the world of Games

International 3-D Tennis

International 3-D Tennis offers a fresh new perspective on sporting simulations. *C&VG* magazine rated the game at 94%, and absolutely raved about it ... "This is fab - a breakthrough. No one could fail to be impressed." After reviews like that, what can I say? It's certainly an interesting game. Programmers Sensible Software have taken the radical step of applying vector style graphics to a sport sim. And to my mind at least, the results are mixed.

Vector graphics will be familiar to anyone who's played a fast paced flight simulator - the world is re-created in geometrically faceted blocks, full of straight edges and angles that can be recalculated and redrawn quickly by the computer. It's a 3-D world, alright, but at the expense of realism. And the same trade-off has been made in 3-D Tennis.

In a word, the graphics are u-g-l-y. Your players look more like stick insects than tennis stars as they scuttle round the court. Everything is triangular. Your head is a triangle, your torso is a triangle - even your racquet is a triangle. And ironically, in this 3-D world, the players are very, very two dimensional. But - and it's a big but - there are benefits as well. These two dimensional stick insects move with scien-

tific precision, and you've got much more control than in most other tennis games. In fact, these guys play better tennis than almost any stick insect I've ever seen.

Sound effects are great too. Close your eyes for a moment and you'll find yourself on centre court at Wimbledon. On the Amiga version, the crowd murmurs and roars, the ball bounces on the court and thwacks on the racquet convincingly, and there's even a plum-voiced umpire who announces the score clearly after each point.

There's a two player mode that lets you battle it out with a friend, and you can play in any of 72 true to life tournaments or even a full season. There's prize money to be won as well as the world ranking chart to climb - so *International 3-D Tennis* will offer a good long term challenge.

This is a hard game to rate. While the graphics are ugly, they also do the job very well. Gameplay and sound effects are great, so all in all it's a nice game.

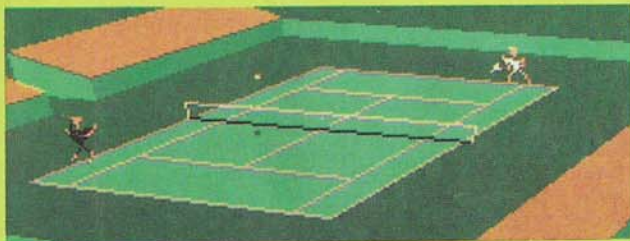
Distributed by:

Mindscape
(02) 899 2277

RRP: Amiga \$59.95
C64 disk \$39.95

Ratings:

graphics: 75%
sound : 95%
gameplay: 84%
overall : 85%



OMEGA

If it's tanks you're after, look no further. *Omega* lets you join the elite cybertank engineers at the Organisation of Strategic Intelligence, the world's leading developer of military cybernetics. It's your job to design and program killer tanks - define the chassis specifications, install weapon systems, devise their AI logic systems and send them out to do battle.

Omega is definitely a "brain game" - a game of logic and strategy. You'll need to put a lot of time and effort into designing the perfect tank, but it's all rewarded in the end - especially if you win.

The game is certainly complex - the manual is nearly two centimetres thick. But don't panic! It's not as tough as it sounds. Construction is modular, even down to the pre-defined Artificial Intelligence modules that make up your tank's brain. The programming language that controls your tank consists of simple English-like commands like "Turn Tank to face enemy tank," which even I can understand.

The game fills two dou-

ble sided disks, and you also need your own data disk. Impressive, but you'll find yourself doing a heck of a lot of disk swapping. Most of the action takes place in front of a simulated OSI computer terminal, so the graphics are not all that flash. The simulated battle sequences are not much better - a half screen display shows your tank trundling around a battlefield following your pre-defined instructions. The tank is small, with little detail, and the battlefield lacks colour.

Sound effects are minimal too. But in the end it doesn't matter. You won't be buying *Omega* for the graphics and sound - you'll be buying it for the strategic challenge. It's full of atmosphere, and there's a heap of depth. Budding cyber-scientists will love it.

Distributed by:

Dataflow (02) 331 6153

RRP: Amiga \$69.95
C64 disk

Ratings:

Graphics: 53%
Sound : 52%
Depth : 90%
Gameplay: 76%
Overall: 74%



Red Storm Rising

Some time ago Tom Clancy's book *Red Storm Rising* was released as a C64 game. Now the Amiga version is available.

Nuclear power and improved sonar technology changed things for the better. A nuclear submarine can now outrun most surface ships and it's torpedoes are now robotic kamikazes, programmed to search for their targets with active and passive sonars, then close on and destroy it with a half-ton warhead.

The main capability of the submarine is stealth. Submarine warfare is ambush, followed by evasion; a game of life and death played in three dimensions of cold, wet and unforgiving darkness. To play *Red Storm Rising* you'll need to study the instructions. It's a complex game! The instruction book is 100 pages long and full of information about tactics, controls, maps and the ships that you will fight against and sail in. If you're looking for a brainless shoot 'em up, this game is not for

you. But if you're something of a strategist, you'll love it.

Most of the game is played out on a radar screen, which means the graphics are not very fancy. Torpedo launch sequences are better, with a nice graphical sequence showing the results of your shot. The sound effects are not very fancy either - but then again, life on a submarine is pretty dull. All you hear are authentic sonar "pings" and a range of electronic beeps and buzzes.

Even so, *Red Storm Rising* is a classy game. I liked it a lot.

Juris Graney

Amiga version reviewed. C-64 already available.

Distributed by:

Questor

(02) 662 7944

RRP: Amiga \$69.95

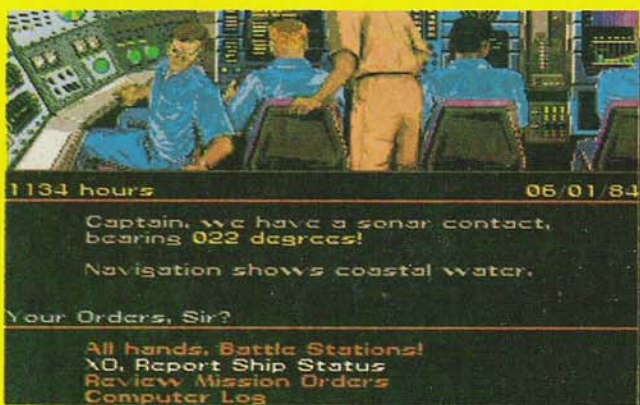
Ratings:

Graphics: 72%

Sound : 65%

Strategy: 85%

Overall : 77%



(PLAGUE)

Venus - The Flytrap

When over intensive farming and the excessive use of pesticides destroyed all the world's real insects, scientists stepped in to restore the ecological balance. They created a race of genetically engineered cybernetic insects. But a flaw in the genetic makeup of these Cyberbugs has made them run rampant. The world will end - unless your robotic "Venus", the ultimate killer insectoid, can save the day.

In Venus, there are fifty levels spread across ten different worlds. With a bonus level at the end of each level.

The graphics are very lush, full of strange green plants and vines, arranged in a horizontally scrolling platform style landscape. As you destroy each enemy cyberbug, you can collect a bonus pod - extra speed, weapons and time are yours for the taking. Animation is slick, sound is nice.

All in all this is a pretty nice game.

Distributed by:

Mindscape

(02) 899 2277

RRP: Amiga \$59.95

Ratings:

Graphics: 83%

Sound : 74%

Gameplay: 84%

Overall : 82%

The Plague

The Plague is a nasty piece of business - grim but highly detailed graphics, sombre music, and hordes of evil beings to destroy. You'll probably love it. The action takes place on a horizontally scrolling landscape - you control a huge and muscular sprite whose task it is to rid the planet of the results of an unfortunate genetic experiment. Hey, sounds familiar. Isn't this the same scenario as *Venus*? This time, though, the mutants are huge and extremely mean. Scrolling is fast and smooth, and the special display mode uses 42 colours to create a nice feeling of depth. Gameplay varies from the too easy to the seemingly impossible, so I guess you'd have to say there's something for everyone. I'm still stuck on level 1. In summary, *The Plague* is one of the best "nasty-blasters" I've seen for a while - a very well polished game.

Distributed by:

Mindscape

(02) 899 2277

RRP: Amiga \$69.95

RATINGS:

Graphics: 88%

Sound : 84%

Gameplay: 76%

Overall: 81%



Prepare for the ultimate fantasy

Advanced Dungeons & Dragons

Game Products come alive on your computer!

One ofSSI's
best selling titles is
now available in a new
format - the Amiga

POOL OF RADIANCE



SSI in collaboration with
TSR — the producer of
the legendary ADVANCED
DUNGEONS & DRAGONS®
role-playing system —
proudly presents the
ultimate breakthrough
in fantasy gaming:
An entire line of AD&D®
game products for your
home computer.

STRATEGIC SIMULATIONS, INC.
10416 N. Bergehall Avenue
Mountain View, CA 94035
(415) 964-1555



ADVANCED DUNGEONS & DRAGONS, DUNGEON
MASTERS ASSISTANT, and POOL OF RADIANCE are
trademarks owned by TSR, Inc.

©1989 TSR, Inc. All Rights Reserved.

STRATEGIC SIMULATIONS, INC.

BONUS ZOOMER JOYSTICK WITH EACH COPY PURCHASED
WHILE STOCKS LAST

Available from leading computer stores

Dealer enquiries contact
Entertainment & Computer Products
Ph: (075) 963 488 Fax: (075) 963 512


ELECTRONIC ARTS®

ECP
Entertaining
Australia

FLOOD

If you hate having fun, then don't read this! As ANDREW BAARTZ discovered, the creators of Populous might have another hit on their hands ...

➡ As I unwrapped it, my immediate impression of *Flood* was that it was probably just an innocuous little kids game. (My wife reckons that all computer games are for little kids). And as it booted up, and as the music played, and as the screen came alive - I still thought it was for toddlers! Even the poster that came with it looked as though it belonged in my son's room - he's seven months old. I didn't expect the game to hold my attention for more than fifteen minutes.

But look at me now! A *Flood* addict - unable to concentrate in conversations, distracted at work, prevented from leading a normal life as my mind yearns to discover how "Quiffy" (the *Flood* hero) can be saved from the rising flood.

You see, Quiffy's subterranean home is filling with water and he must escape to the surface, because he can't breathe underwater! After all, he's only a slightly overweight wee green Blobbie. In fact, he's the last member of his race (very sad), alone and needing help. In the background there's a gurgling sound as water starts to fill each of the forty-two levels. And Quiffy makes interesting - sometimes puzzling - sounds as he encounters various other inhabitants of the caverns, like the 'Bulbous Headed Vongs', the 'Vacuous Combos' and the 'Psycho Teddies'.

It was these sounds that made my wife a little curious, and led her to venture to the

Amiga and see what was happening. Then she saw the graphics and she was captivated. They really are great! Even Samuel, from the safety of his high-chair, was gripped by the colours and cartoon characters on the screen. This was quickly becoming the tragic story of a family addiction. Then ... my technophobiatic wife even asked for a turn! Reluctantly I gave up the joystick. Being unfamiliar with computer games in general, let alone a cartoon-style fantasy adventure, I gave her a little advice to get her going. (Rachel doesn't like reading instructions, even though they managed to fit everything you need to know on the back of the poster)

The poster is actually a form of copy-protection. Questions are asked about it to gain access, and you even get to choose the language in which it asks. Various levels have hidden passwords, so at the start you can bypass sections of the game that you have mastered, and get into the latest action quickly. And Quiffy is an active little critter. He runs (actually he's a bit plump and it's more of a waddle), he jumps, he climbs walls and ceilings, he goes balloning and parachuting, he dives and he swims. He's a little trash collecting, all-terrain creature. But he can't stay under water for too long before it does him harm. Despite that cute, fun loving, unassuming exterior, Quiffy has a strong sense of survival.

Scattered throughout the cavern is a variety of life threatening hardware: Gre-

nades, Flame-throwers and delayed action Dynamite, to name a few. These have been left behind after a genocidal war against Quiffy's race. The perpetrators of that vicious war still haunt the caverns and Quiffy is always on guard. Indeed, the caverns are full of all manner of bizarre creatures and intriguing devices. To get from one level to the next, Quiffy must collect all the pieces of trash, to enable the teleporter. And it's a race against the clock, since the *Flood* waters are rising all the time behind him. Not only do Quiffy's enemies slow him down, but the 'Sparling Fungi', the 'Beady Balls' and the missile traps all thwart his pilgrimage.

Unlike many adventure games, *Flood* is not slow or frustrating. There is a lot to learn, but the rate of discovery is pretty quick. Skills are developed rapidly, and good timing becomes much more critical than fast reflexes. (That was another thing that Rachel liked about *Flood*).

It's an intense race for survival, but heaps of fun. Let's face it. It's addictive! It took all my self-control to just stay away long enough to finish this review. Don't buy it, if you've got better things to do than be entertained for hours and hours and hours. □

Distributed by:

ECP (075) 963 488

RRP: Amiga \$49.95

Ratings:

Graphics : 81%

Sound : 75%

Playability: 88%

Overall : 83%

TONY SMITH *dusts off his brain and finds himself fascinated as he gets into some serious role playing with ...*

CENTAURI ALLIANCE

➔ Role playing games, or RPG's as they are known have never been my favourite computer pastime, although I have dabbled in the *Ultima* series and enjoyed games like *Heart of Africa* and *Seven Cities of Gold*. As I opened *Centauri Alliance* I gazed in amazement at the three disk set with its accompanying booklets, reference card and fold out map. This was more like it, an RPG set in the future as a space trading type of game with an *Ultima* style of interface.

I read through the manuals and booted up the first disk. Five hours later I was still at it. This game has certainly got that "play some more" feeling.

You play the part of an alliance Soldier. Together with your team, you are sent to a distant planet to receive your orders. This seemingly complex task results in you and your team gaining valuable experience points and artifacts. Later you venture into the unknown in search of the 'Daynab' Confederation and the pieces of an ancient weapon, the 'Fractyr Fist'. On the way you encounter people from six different races from humanoid to insectoids, birds, reptiles and even the amazing 'Tractor', 1 metre tall and living for 120 years, they can metamorph at will into a variety of shapes but in their relaxed form they have three legs and three arms with one cyclopan eye in the middle of their head.

Two main books are included in the package, a reference manual and a field guide, being 53 and 24 pages respectively. The books are highly necessary. Pirate copies of this game, if it is possible to 'crack' it, will be useless. Even the map of Lunabase in the field guide is invaluable.

The Psionic ability chart contains the 90 keywords for the various powers available. Five categories of psionic power can be used on each level with up to four powers in each category. Mind power ranges from "invisibility" on level one to "berserker

rage" and "aura block" on levels seven and ten. Body power ranges from "insta-heal" and "meta-fist" to "astral sight" and "fastclone". Matter powers range from "earthquake" to "chaos", energy powers from "force field" to "photon fury" and last of all, "Metamorph", which lets you change your shape.

There are eleven separate worlds to be visited, each with its own special benefits and dangers. Weapons and protective clothing are found in the shops scattered around the spaceports and range from broadswords to beretta's, shotguns and even a photon blaster. Environment suits and combat armour are also available - at a price of course.

You may have guessed by now... this game is HUGE! With four sides of scenario disks and the ability to use more than one disk drive (thank you, programmers) there is an incredibly wide range of situations and variables. Characters can be created, modified, chosen and even imported from such games as *Bards Tale 1,2 or 3*, *Wizardry 1-3*, *Ultima* or *Might and Magic*. If you had a favourite Orc called Boris in *Ultima*, he could become a technician in the dawn of the 23rd century.

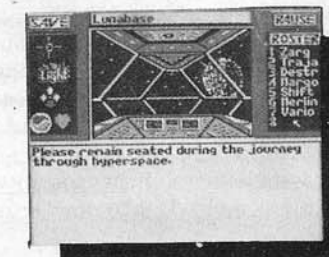
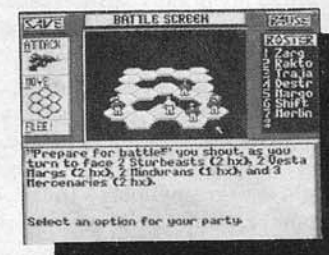
Exploring the 'world' takes you through a smooth, fast maze. There are doors to enter and passages to follow. Map making is a must, but the game includes a (V)iew mode to map the current level - make sure you copy it down onto graph paper before leaving the area.

I am now converted to RPG's and will be reviving my interest in some of the more dated games when I can get off this one. Who said the Commodore 64 was dead? It lives on with a strength that amazes us all. RPG fans rejoice, this will keep the dedicated explorer and organiser happy for a long time to come.

Distributed by:

Dataflow (02) 331 6153

RRP: C64 disk \$69.95



Bridge Player 2000

Rusty Card Sharp KEN SIMPSON
checks out this new card game, and
decides that some people might like it
quite a lot...

The enormous amount of energy and money invested in card games has always amazed me. So many games seem to be totally dependent on luck that I fail to see how anyone could hope to come out on top in a gambling contest without cheating. Having been raised in a family that was "holiday addicted" to Five Hundred, though, I can see the measure of skill required in choosing cards and bidding appropriately.

Therefore it seemed somewhat strange to receive *Bridge Player* to review. Someone that knows less about bridge than me would be difficult to find. To my relief though I saw that the package comes with a tutor. Well, I'll give it a go. Wonder of wonders, it worked on my accelerator and I am sure it would have run from my hard drive.

The initial start screen is quite pedestrian. A page full of coloured text is not the most inspiring of entries to a game. To begin you are presented with the choice of playing a game or using the tutor with any of 20 preset hands. Then, woe of woes, you are given a screen that has four areas with symbols and characters to represent your hands. You play south and start the bidding.

It took me a while to realise that the preset hand meant that you couldn't deviate from it. Any option other than the option the computer was expecting is outright rejected and you have to try again. After a while I twigged that if I typed "Z" the preferred hand (and bid) would be made for me and for my partner - whom you also play. Confused? So was I.

Eventually I went on to win the hand, and a half screen of commentary text is displayed to help you understand what the

game is doing. Unfortunately for me, I knew so little about bridge that most of the commentary meant nothing to me and so didn't help. It was time to call for help. A card playing friend dropped by and decoded all the jargon - suddenly, the commentary was quite helpful. As I tried more and more of the preset hands I became more and more au-fait with the actual game play, which in many ways is like Five Hundred, and so more and more of my guesses at which card to play were approved. Still, some of the logic escapes me. And I had progressed nowhere in my understanding of the bidding.

Even so, I decided I was ready for the big-time. A real hand against a 'real' opponent. The menu choices were confusing, as I had no idea what a weak or a strong position would be, or what a contract and a declarer are (and I still haven't quite worked it out). So I opted for the one where I was strong and played on. (A neat trick is to play all four hands yourself but to ask the computer to play your opponents.) That way you can see all the hands, but play yours.

Anyway, I rapidly realised that it wasn't quite as easy as I thought. I kept making silly mistakes and being whumped by the computer, always winning enough of the tricks to keep me interested though.

My main gripe is that the gameplay is average. All entries are from the keyboard, for example DA for ace of diamonds, or C9 for 9 of Clubs. Even quitting was accomplished by XX. There seems to have been no attempt at "Amiga-izing" what is fairly clearly an IBM port. Sometimes I wish they would just spend that little extra time making the game system sensitive. Even one pull-down menu would have made it feel

better.

My impressions? Well, if you are after a *Space Ace* or *Elite* then this is definitely not a go. However it would appear to me that bridge is not really that sort of game anyway. This is definitely not the game a complete novice would use as too little is explained to really tutor you adequately. But if you have the rudiments and need practice, and the occasional tutored hand and analysis to improve your bridge, then this may be almost exactly what you need. And if you need this, who cares if it doesn't have a WIMP interface. After all, we are talking Bridge, not Go Fish! □

Distributed by:
Pactronics (02) 748 4700
RRP: Amiga \$59.95

PETER CHRISTOPHER
*phoned me after he'd
filed this story. He
wanted me to know that
he's made it through
level 1. He was very
excited. Doesn't he know
that a good reviewer
should never get
emotionally involved
with his subject? Then
again, Peter reckons this
is a mighty hot game*

FIRE AND BRIMSTONE



I've been to hell and back. Well, the truth is I really didn't make it to hell. Mind you, I tried. So did my son. So did my daughter. So did their friends. Never in the history of mankind have so many people tried so hard for so long to enter such a forbidding place. To put it mildly, it was hell trying. *Fire and Brimstone* is one addictive, nerve-wracking and frustrating experience. It's fun, too.

If you're prone to coming home seething from work and taking it out on the resident Garfield, a dose of *Fire And Brimstone* might stop the fur flying. Then again you might end up doing more damage out of sheer frustration. That's the nature of the game.

Here's the plot: Thor, a Norse god who looks like a shortfry bodybuilder, must go to Niflheim, home of the fiendish goddess called Hel. But getting to Niflheim is no easy matter. There are many lands to travel through before you reach the evil one and Hel's influence has filtered into all of them.

Nastiness abounds as all manner of creatures try to wipe out our gutsy little hero. Not that I know too much about too many of those other worlds. Poor old Thor had a 36 handicap when he got me as his mentor. But Thor perseveres, knowing that to reach and kill Hel will give his people liberty for all time. *Fire And Brimstone*, no doubt named after a few Presbyterian sermons, is a dark, yet still richly coloured game of cunning, speed and trial and error. The graphics, set almost entirely on black backgrounds, are in deep greens, vivid reds, and blues and are well detailed. A good example are the flowing rivers, with leaping goldfish, and the forests with leaves shimmering in the trees. We enter the world of Thor with a less-than-grand entrance

from his little shack. He's immediately confronted by a big, muscular, blue, armed person with murder on his mind.

Now this is the only clue I'll give you - don't upset Big Blue. He gets mighty angry and is best left alone lest you lose one of Thor's four lives. Thor is well-equipped for his arduous journey with weapons like fireballs and axes but he also has some trickery up his sleeve. He can get his hands on magic potions which build bridges over deathly caverns, others which give him Olympian high-jumping abilities and still others which render his enemies in that frame helpless.

Thor needs all the help he can get because Hel has some incredibly powerful, and numerous, villains at her disposal. One example is the flock of bat-like birds which can kill Thor on impact. They attack in squadrons from front and rear and pop up at the most unwanted moments. Thor scores points every time he kills one and massing a big tally can get you on the *Fire And Brimstone* hall of fame. But frankly, I say phooey to that. All I wanted was to continue my journey, not amass brownie points.

Although I struggled and was forced to restart the journey countless times, the game has not been frustrating enough to deter me. The secret of its success is that it teases you, cajoles you to have another go. The tantalising thought of entering another world you've never seen before will, I'm sure, keep most buyers of this game going for ages.

The audio on *Fire And Brimstone* is fairly basic by my reckoning - some introductory music sets the pace, but from then on there's just a whole lot of pings and pangs. Not having gone to the end how-

ever, I can't say much. There may be a full symphony orchestra awaiting a triumphant conclusion.

Thor is well controlled by the joystick. He responds admirably to anything you ask of him, like leaping over fire and firing fireballs. But just wait for the moment when one of Hel's Angels - or should that be devils - plays havoc with the joystick movements and reverses all the controls. I guarantee it will test even the most nimble of players. To move your joystick forward and have Thor go backwards and vice-versa is a memorable experience - hellish, in fact.

In summary, *Fire and Brimstone* is hot stuff. I'll be playing it for a long time yet.

Distributed by:

Questor (02) 662 7944

RRP: Amiga: \$59.95

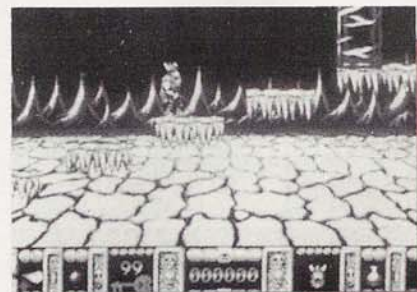
Ratings:

Graphics: 83%

Sound : 69%

Gameplay: 84%

Overall : 80%



Adventurer's Realm

by Michael Spiteri

Welcome back to the Realm, the part of the magazine that tries to restore sanity to adventurers and role-players stuck in worlds and galaxies throughout the Universe ... and beyond. As well as general hints and tips, there are a number of free hint sheets for the more popular adventure games. If you are still stuck, your last resort is to print your problem among these pages where you can be sure at least one of the thousands of readers will help you out. The address to write to for adventure game hints, problems, hint sheets and general chat is: **Adventurers Realm P.O.Box 351**

Pakenham Vic 3810

Kamikaze Andy will try to solve any role-playing-game queries you can throw at him (no hint sheets though!). His address:

The Dungeon P.O.Box 315 Maddington W.A. 6109

We also cater for wargamers. Just mark your letter c/o **Wargaming The Realm, P.O. Box 351, Pakenham, Vic 3810.**

Always enclose a stamped addressed envelope!!!

Help, Help and More Help (or the Smart Adventurers Dept)

Thanks to everyone who went to the trouble of responding to troubled adventurers' pleas for help.

Game: The Temple Curse

For: Ben Del Fabbro

From: Peter Nuzum

Help: To break the lock at the bottom of the steps you need the stick obtained by removing the leaves from the branch.

Game: The Temple Curse

For: Stuart George

From: Peter Nuzum

Help: To cross the pool, row west.

Game: Island of Spies

For: Stuart George

From: Peter Nuzum

Help: Give the lady the beads found in the dark corner near the fuselage. Feel in the corner and pull the string. To cross the swamp, go e.s.w.e.n.w.w.n.

Game: The Last Planet

For: Stuart George

From: Peter Nuzum

Help: You have to draw the map yourself. I don't think there is any need to destroy the shack.

Game: The Last Planet

For: Stuart George

From: Peter Nuzum

Help: There is no scrambled newspaper. In the limestone cave go n.s.e.w (anagram of news).

Free Hint Sheets

We have hint sheets coming out of our baby grues! Expect a sudden burst of new hint sheets in either the November or Christmas issue. In the meantime, you are entitled to any four of the hint sheets listed below - as long as you enclose a stamped addressed envelope.

Bards Tale 1, 2 & 3, Faery Tale, Hitchhikers Guide, Castle of Terror, Adventureland, Pirate Adventure, Pawn, Borrowed Time, Never Ending Story, Zzzzzzz, Zork 1, 2 & 3, Deja Vu, Dracula, Fish.

Psst! The Official **Adventurers Realm Hint Book** is in the works - should be available before Christmas!!

- Stay tuned for more details. -

Game: Indy

For: Kevin

Help: To get past the final trial, click on the opposite ledge directly across the ravine as soon as Indy walks through the door. He will walk smoothly across. Don't walk him up and down the left hand ledge. If you do, he will fall when you try to walk to the other side.

Game: Indy

For: Spaceflight

Help: Indy cannot pass the grate and enter the crypt directly. He must first solve a series of puzzles. Have you noticed that the torch on the wall is stiff? A good start

Problems, problem & more problems (or the troubled adventurers Dept.)

Greg Pahek of Mildura in Victoria is really troubled by *Police Quest*, and would like some general hints and tips.

Mr J.W.Knight of Geraldton in Western Australia is stuck in a game called *Shifting Sands*. A particular Immortal Cobra is blocking his path. Quite a snaky problem, eh?

Then we have David Marjanovic (Revesby, NSW) who having just solved *Space Quest I* thanks to solutions in the Realm, is stuck in a couple more games. First up in *Zak McKracken*; where do you get the lighter? Then in *Manhunter - New York*, what do you do in the church, and how do you get into the museum?

Giganoid is a game troubling Chris Atkin of Narrabri in NSW. He wants to know how to get past the gatekeeper on level 25.

Mudness L Bauld (!) of Edgeworth, NSW is stuck in *The Temple Curse*. He seems attracted by a ring embedded in flint in a red room and wants to know how to get it! Mudness also would like to know what you have to do in the sand dungeon.

Sierra games are troubling Alastair Edginton of Mitcham in Victoria. In *Space Quest II*, after climbing down into the ravine on the rope, how do you light your way through the cave, and how do you get past the beaver that is in there. Then in *Hero's Quest*, Alastair is not much of a hero because he cannot work out the magic formula from the rock in the Peace.

Chris Giles wrote in asking for an *Indiana Jones* hint sheet. Well, unfortunately there isn't one. Chris would like some tips with the castle (3rd level).

Darren Bourke of Monegeetta (where?) in Victoria is desperate for hints in *Deja Vu II*. He wants to know how to get into the morgue, or even to find out where to use the safety deposit key, Mercedes key, and the strange key from the telephone.

Finally, Michael Bathols of Narrogin in W.A. is stuck in *Demon's Winter*. A certain riddle about a spell is stretching his brain... A spectral priest utters a chant power, divinity, spirit,...and awaits the final word of the spell.

is to climb up through the manhole, walk left to where the couple is and look at the wine bottle then pick up. Go to the fountain and fill it with water. Come down again and use the bottle with the torch. To get into Henry's house, first pull the bookcase. Examine it carefully to find the sticky tape. Go back to Indy's lab and use the sticky tape with the jar. There is more to it than meets the eye....

Game: Zak McKracken

For: Ben Del Fabbro

Help: To get up to Mars, Zak needs the yellow crystal. This comes in two parts (crystal shards) one of which is given to you by Annie, the other can be found in the Mayan pyramid (through the jungle in Mexico) To fuse the shards, first obtain the flag pole from outside the police station (setting the hay on fire helps in this section). Then, take both Zak and Annie to London and get Annie to give the whiskey to the guard. Use the wire cutters on the fence, walk to altar at Stonehenge, stick the flagpole in and get Annie to read the scroll. Then take the yellow crystal

to the witch doctor in Africa.

Game: Tass Times in Tone Town

For: Natalie Paine

From: Justin Prime

Help: To get the metal card, buy a pet, Blobo, leave the shop and go N.W.N.W. The editor's name is Nuyu (it can be found in the opening titles). To use the terminal, turn it on (and the printer) and just follow the instructions. Snarlbane is inside the silver painted jar (after a Red Devil is put in it).

Game: Leisure Suit Larry II

For: Jerry Kushnir

From: Shalom Baker

Help: While sitting next to Ken, give Ken the pamphlet (that you got from the airport counter), get airsick bag, get up and go to the rear section, get parachute, wear parachute, look exit door, use bobby pin (that was in the gravy) on lock, pull handle, open door, use parachute on the way down....

Clever Contacts

Two more to add to the already extensive list of clever contacts. Enclose a stamped addressed envelope when writing to one.

➡ Jozsef Toth of 11/8 Garnett Place in Balga, W.A. 6061 would like to offer help for *It Came From the Desert* and *The Lords of Time*.

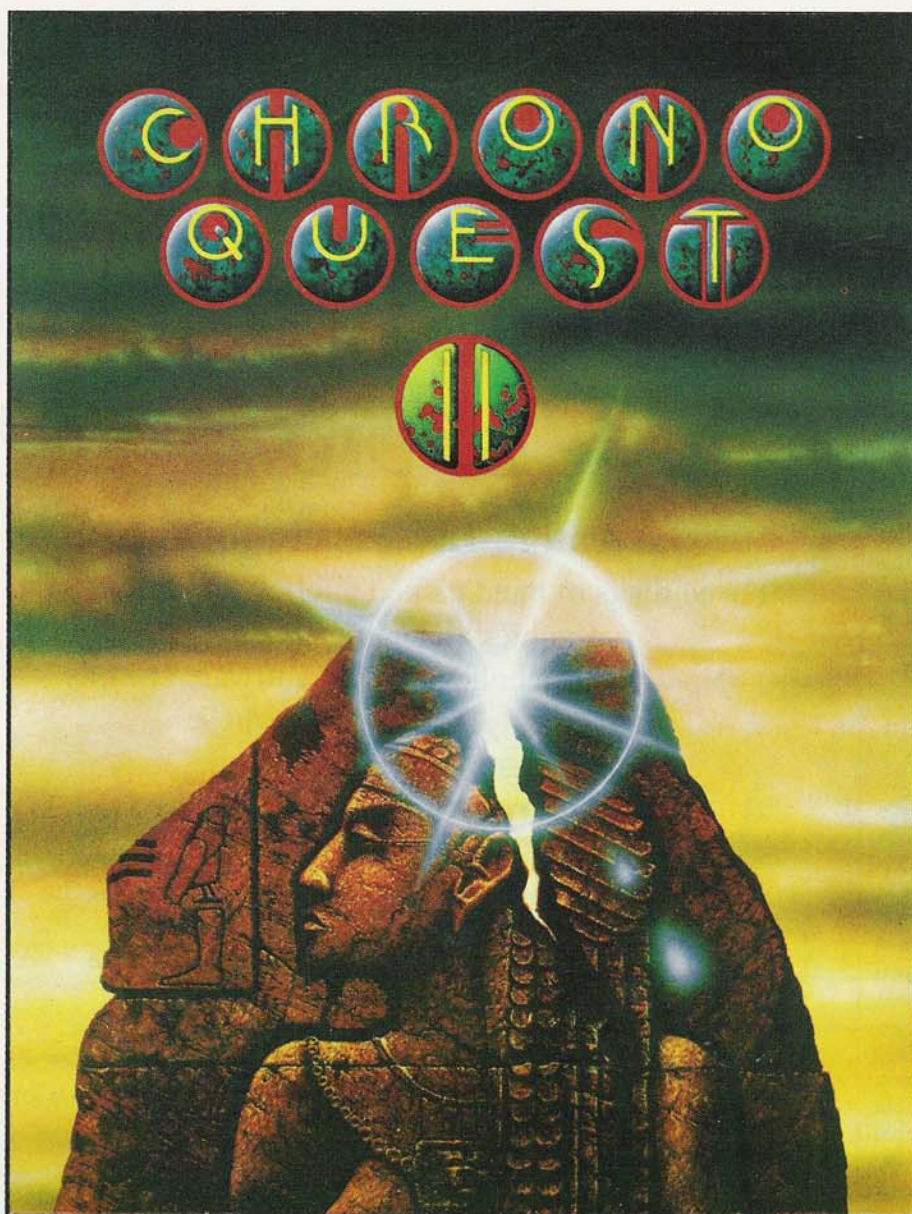
➡ Martin McLaren of 39 Jones Crescent, Rosanna, Vic 3084 is offering help with *Pool of Radiance* and *Bards Tale III*.

The Dungeon by Kamikaze Andy

➡ Big news this month is the imminent release of *Chaos Strikes Back* on the Amiga. This new data disk for the RPG classic *Dungeon Master* features 10 new monster-packed levels, as your brave party of adventurers attempt to destroy Lord Chaos once and for all. Although most of the graphics in *Chaos* are similar to *Dungeon Master*, the creators of the game have included many new puzzles and those dreaded worms, and much more! Other features include a hint oracle, and a character editor (which allows you to change the appearances of your characters, but not the abilities). *Chaos Strikes Back* will require 1 meg to run, and although you needn't have played *Dungeon Master* to play this game, it is advisable that you do so because *Chaos* is much harder than its predecessor. *Mega-fortress* is an unusual entry into the RPG scene; unusual in that it is also something of a flight simulator! Your quest (or mission) is to penetrate Soviet airspace and destroy the new Star Wars installation deep in Mother Russia, using a B52 bomber armed to the hilt with all the latest weaponry and targeting systems, including stealth armour! *Mega-fortress* can be classified as part RPG because of its unusual premise and because of the strong storyline. Available for the Amiga soon!

Another Amiga entry is *Dragonstrike*, from SSI. This is another unusual RPG,

cont. on page 80



➡Ever spent the better part of an afternoon looking for a shop that you thought you roughly knew the location of? Well, Psygnosis' new graphic adventure game, *Chrono Quest II*, will strike a familiar chord for such forgetful readers.

Any new re-lease by Psygnosis is usually worth looking at for the stunning graphics if nothing else. This one, well, the graphics (which are mostly still-screen) aren't too bad, but they won't have you waking up Dali to tell him the news.

The situation follows on from *Chrono Quest I*, which wasn't exactly a high-profile game, at least by Psygnosis's standards. If you had the adventure/mystery-playing skills to complete installment one of our series you would have found yourself with a time machine, playing a game of

chasies through time with the nasty piece of works who popped off dear old Dad.

Part II finds you a long time from home. Explora, the time-machine is malfunctioning, and you can't get the NRMA on the phone. It's a situation that will send shivers down the spine of us arcade blasters. Yes, you're going to have to do some careful thinking. There are two different ways you can travel. Firstly you can move geographically, forwards and backwards along set paths - just click arrow icons to take you to new screens. There are usually between three and five screens on each path. Be warned, some lead to death (though you can only find out by trial-and-error, so there's really no point in warning you) and some, like the cave in Time Stage

2 appear to be a dead end, but are not. (That's about the only hint I'm going to give you!).

Along the way you can examine your surroundings and pick up or 'souvenir' anything useful that happens to be conveniently lying around. Metal is particularly valuable because it powers the time machine. This allows you to travel to other Time Stages, of which there are thirteen.

How do you finish, you might ask? Well, it's got something to do with working out a logical order to travel through all the different Time Stages. This may sound exciting and/or challenging, but not much happens in most of the stages. This is where the game will have its appeal to the adventurer's, whereas other gamers will probably lose interest.

A problem with the game concerns the conversations you can have with some of the characters. There must be something important that they can reveal (or give to you), but for me this always seems to be that they have appointed themselves my executioner. Many adventurers like the added 'realism' that conversations add to games, but I usually find they detract from the gameplay.

Another thing that doesn't help is the fact that the 'give' function seems to work in mysterious ways, and the manual, which is brief and not overly helpful, certainly isn't of any help here. There is also some poor translation of some of the messages (and none at all with the signs attached to pointers!). The save function is also frustrating, as you need a whole disk just to save one game.

This may be the game for an experienced adventurer looking for new worlds to conquer, but it's not the place to start your adventuring days. There just isn't enough happening to keep the average gamer interested, especially once you've seen all the different Time Stages. Most games work on frustration. This one has its own sort, and I hope you've gained some idea of it. □

Distributed by:

Mindscape (02) 899 2277

RRP: Amiga \$79.95

Ratings:	Overall Gameplay
Graphics: 75%	(Adventurers): 80%
Sound: 55%	(Others): 65%



because *Dragonstrike* is also a flight simulator, but this time you fly Dragons instead of B52's. Guide your mighty dragon against evil dragons that threaten your kingdom in a series of quests included in the game. *Dragonstrike* features smooth animation, and great vector-filled graphics. The programmers are Westwood Associates, makers of the upcoming *Battle-tech II* (Amiga and C64) and *Mechwarrior* (Amiga).

Sequels seem to be getting as popular in computer games as they are in movies. Watch out for *Secret of the Silver Blades*, another sequel from SSI in its AD&D RPG series. This game is available now on the C64, and will be converted to the Amiga. Sierra also have *Heroes Quest II: Trial By Fire* soon to appear on the Amiga, as well as *Kings Quest V* and *Space Quest IV*. Incidentally, *Kings Quest V* along with *LOOM* (Lucasfilm) are two titles soon to appear on the new Amiga CD-TV system.

Accolade is the latest company to enter the RPG adventure arena with a whole bunch of new Amiga releases. Already out is *The Third Courier*, a spy game set in Berlin. You play the role of a CIA agent codenamed Moondancer, and it is your mission to seek out a rogue agent who is planning to defect to the east. Coming soon is *Search For The King*, a humorous graphic adventure that takes you in search for the King of Rock'n'Roll.

Interplay, makers of the *Bards Tale* series, have just released *Lord of the Rings Volume 1*, a completely new game based on the works of Tolkien. It's available now on the C64, with a version available for the Amiga coming soon. Interplay have also released *Dragon Wars* for the Amiga, a huge RPG set in the realm of Oceania. □

Allen	61	Lazarus	34
Amiga Live	80	Lee-Jan	38
Briwall	52,53	Logico	49
Busisoft	5	MAST	39
Commodore	10,11,56,60	Megadisc	14
Computer		Melton	67
Discounts	39	Multicoins	37,67
Computer		PCM	6
Magic	53	Pacific	
Computermate	23,35,38	Microlab	27
Computer Spot	28-31	Pactronics	25,51
Dataflow	21	Parcom	50
Desktop Utilities	19	Pelham	67
Digisoft	15	Phoenix	7
ECP/EA	33,43	Power	
Fonhof	23	Peripherals	3
Hard Disk		Prime Artifax	64
Cafe	2,16,17,18	Quadrant	7
Harris Hi-Tek	8	Rod Irving	14
Home		Roseneath	20
Entertainment	40,41	Star	45
HPD	55,57,61	Unitech	20
Interlink	46,47	XEL	2
Island by Mail	67	Whites	6
Kawai	9		

Commodore and Amiga Review 80

More Amazing Software... at a price you can afford.

From
the editors of
the Australian
Amiga Review

Amiga-Live! issue four.

Three disks of hand picked public domain software, graphics and demonstrations.

Now you can collect quality software cheaply, quickly, from people whose judgement you can trust.

Features Of Issue Four

Funpaint - A powerful program for the price! Works in almost all Amiga graphics resolutions including HAM and extra-half-brite. Basic drawing functions.

ImageLab - Full image processing capabilities from simple averaging to Fast Fourier Transformations. Extensive documentation on disk. Works in many resolutions - fantastic effects possible.

FixDisk - Restore lost files, recover damaged disks and undo a lot of common DOS problems.

Gymnast ray traced animation - with sound effects.

Entertainment - Pacman game, Mirror Wars, BallyIII, Emporos and JAR.

PHONE (02) 879-7455

TOLL FREE (008) 25 2879

Credit Card and C.O.D. accepted over the phone.

ORDER FORM

Send cheque or money order made out to Prime Artifax, or use your credit card.

Name: _____ Day Phone: _____

Address: _____

Post Code: _____ Credit Card (tick) VISA ☐ M/C ☐ B/C ☐

Card Number: Exp:

Please rush me issue four of Amiga-Live! I understand I will receive three disks within 7 working days of receipt of this order. Signature: _____

POST TO: Prime Artifax, P.O Box 288, Gladesville 2111



ANNOUNCING BANNER BAND® AND BANNER BRITE

IT'S BRIGHT . . . IT'S EXCITING . . . IT'S FUN . . . AND IT'S NEW FROM
BANNER BAND® AND COMPUTERMATE

BANNER BAND®

BANNER BAND® is a 45' roll of continuous computer paper. Each roll is 9½" wide with ½" margins and tractor strips.

THERE ARE NO CROSS PERFORATIONS making BANNER BAND® the "perfect" product for BANNERS, SIGNS, SPREAD SHEETS and GIANT GRAPHICS.

BANNER BAND® is 70gsm bond paper available in White, Yellow, Pink, Blue, Green, Goldenrod and Party, and White with printed borders Happy Birthday, Congratulations, Christmas and Sale. and plain fluorescent colours . . .

BANNERBRITE™ RED
BANNERBRITE™ GREEN
BANNERBRITE™ ORANGE
BANNERBRITE™ PINK

Distributed in Australia
by

omputermate
products (australia) Pty. Ltd.

9 High St., Mt. Kuring-Gai, NSW 2080.
Ph: (02) 457 8388 Fax: (02) 457 8739.



AMIGA ACCESSORIES

MEGASLIM 3½" Floppy Disk Drive

For Commodore Amiga 500/1000/2000



- Slim, one-inch high design
- Simplified mechanism
- Long life, reliable brushless direct drive motor
- Low power consumption
- Connects direct to computer — no power adapter required
- Fitted with 23 pin D-Series socket for additional drives connection
- On-Off switch
- One year warranty

PHILIPS MONITOR

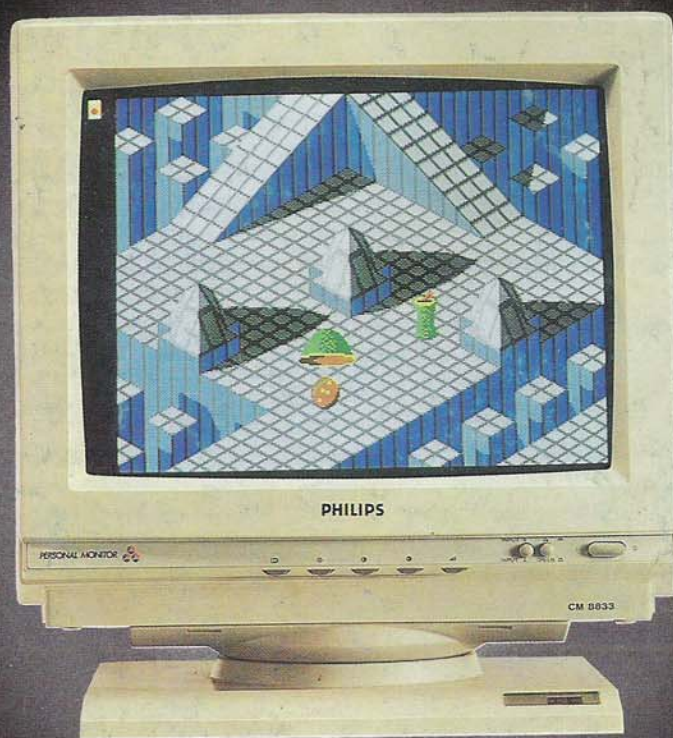
CM 8833 14" CVBS and RGB colour monitor

- IBM PC compatible (CGA)
- fastblanking to enable superimposing
- stereo audio
- earphone socket
- resolution: horizontal 600 dots x 285 lines vertical
- optional: pedestal 'tilt and turn'

SUITABLE FOR:

AMIGA 500/1000
COMMODORE 64
ATARI ST
IBM (CGA)
NINTENDO
SEGA
HOME VIDEO

(Pedestal and some leads are optional)



DISTRIBUTED BY:

HOME ENTERTAINMENT
SUPPLIERS



PTY LTD

UNIT 1/128 BONDS RD, RIVERWOOD NSW, 2210 PH: (02) 533 3679 FAX: (02) 534 6421